This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

No. .....

BOSTON
MEDICAL LIBRARY
ASSOCIATION,
19 BOYLSTON PLACE.

THE MONTHLY

ABSTRACT OF MEDICAL SCIENCE:

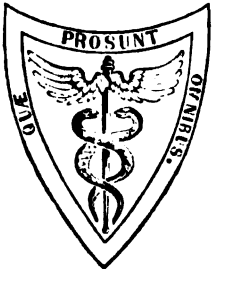
A DIGEST

OF THE

PROGRESS OF MEDICINE AND THE COLLATERAL SCIENCES.

VOLUME V.

1878.



PHILADELPHIA:
HENRY C. LEA.
1878.

PHILADELPHIA:
COLLINS, PRINTER,
705 Jayne Street.

THE MONTHLY ABSTRACT
OF
MEDICAL SCIENCE.

VOL. V. No. 1. For List of Contents see last page. JANUARY, 1878.

Anatomy and Physiology.

The Motor Centres for the Limbs.

The work of verifying, by clinical and pathological observation, the results obtained by experiment on the brains of animals, progresses slowly and not without some uncertainty. Many important facts have, however, been collected by the energetic investigators who are making the present epoch of French medical science one of unusual distinction. One of the latest of these contributions relates to the motor centres for the limbs, and has been presented to the Académie de Médecine by M. BOURDON. Rare but striking cases are occasionally seen in which a cerebral lesion, instead of causing a hemiplegia, causes a paralysis of one only of the members usually affected. It is to these that M. Bourdon's attention has been especially directed. He discussed first the condition of "brachial monoplegia," paralysis limited to one arm, and described a case in which a cerebral lesion gave rise to a persistent paralysis limited to the muscles of the forearm and hand of the right side, without loss of sensibility. The lesion was a small, superficial hemorrhage, situated in the upper part of the left ascending frontal convolution, without any change in the opto-striate centres. In a second case, communicated by M. Verneuil, a fracture of the skull caused a paralysis of the two arms, and at the autopsy two centres of meningo-encephalitis were found, one on the left side, in the upper third of the ascending frontal convolution, the other on the right side, in the ascending parietal convolution. An analysis of twelve other cases of similar limited paralysis showed that all presented the clinical features of a cortical lesion, and that in all, damage, various in form, was found in the motor zone of the surface of the brain. Instead, however, of occupying the upper third of the ascending frontal convolution and the upper two-thirds of the ascending parietal convolution, as they should, according to some experiments in animals made by Carville and Duret, or the middle third of the ascending frontal convolution, according to conclusions adopted by Charcot and Pitres, in their recent memoir, they were disseminated over the whole extent of the two ascending convolutions and the contiguous parts. It is, however, noted that in all of six cases in which a paralysis of the face was associated with paralysis of the arm, the lesion existed in the middle or inferior part of the ascending frontal convolution, and therefore close to the second frontal convolution, where most experimenters agree in locating the motor centre for the face. From these facts, M. Bourdon concludes that the region occupied by these lesions, although of considerable extent, must be regarded as the true motor centre for the arm. When hemiplegia, paralysis of the leg as well as of the arm, results from a cortical lesion, it appears, from an examination of a large number of cases, that the lesion occupies the upper third of the ascending frontal convolution and the upper two-thirds of the ascending parietal convolution, which is in harmony with the conclusions of Charcot and Pitres as to the localization of the combined movements of the arm and leg. In

a considerable number of cases, however, the autopsy revealed lesions having the same seat as those which produced a paralysis of the arm only. A reasonable explanation of these anomalous results might be looked for in the characters of the anatomical lesion, but this is not supported by facts. The extension of the paralysis from the arm to the leg does not appear to be at all related to the extent of the lesion, whether on the surface or in depth.

It has been said that after amputation of the arm, surface changes are found in the centre for the movement of the limb. If so, this might obviously furnish a more exact guide to the localization of the brachial movements. In only two such cases, however, has a post-mortem examination been made. In each the atrophy is said to have been situated in the upper part of the two ascending convolutions—*i. e.*, in only a portion of the region occupied by the lesions which produce brachial monoplegia.

These observations suggest that the centre for the movement of the leg in the human cerebrum is much less strictly localized than it has been believed from experiment to be in animals. At present, however, there are no clinical facts relating to the paralysis of this member which can decide the point. In default of cases of paralysis limited to the leg, M. Bourdon has analyzed three cases of amputation of the leg, followed by an autopsy, and one case of arrested development of the member. In the three cases of amputation M. Luys has found an atrophy of the upper part of the ascending frontal convolution. In the case of arrested development, which was published by M. Landouzy, the atrophy occupied the upper part of the ascending parietal convolution. This is the only case in which the lesion occupied the position in which experimental physiology has located the movement of the leg.

M. Bourdon terminates his memoir with a discussion of the practical application of these results to the problem whether a paralysis limited to the arm furnishes a sufficient indication for the operation of trephining. He concludes that the wide extent of the region which may be implicated when the paralysis has this distribution prevents the selection of any place with sufficient accuracy to justify the operation. But if to the paralysis of the arm there is added a paralysis of the lower part of the face, or aphasia, the lesion will probably be encountered if the trephine is employed in the middle region of the line which corresponds to the fissure of Rolando. This is the position which has been suggested by M. Lucas Championnière. The same surgeon has advised the operation towards the summit of the line corresponding to the fissure of Rolando when the paralysis is confined to the leg. But it has been said that the operation should be done behind the line of the fissure, on account of the supposed localization of the centre in the ascending parietal convolution. M. Bourdon points out that the frequency with which the change has been found in the ascending frontal convolution renders it more prudent to operate upon than behind the given line. In some remarks on M. Bourdon's paper, M. Gosselin, who reported on it to the Académie, and who has devoted much attention to the subject, doubted the propriety of trephining except in cases of depressed fracture, and believed that the existence of depression of bone constituted ample justification, and indication of the place, for trephining, without the evidence of functional alteration. But at the same time, he added, it must not be forgotten by a ready operator that such cases may recover completely, although the depression of bone remains. From such instances it would seem that other motor nerve-cells may take on the function of those which were damaged—a circumstance of great importance and high probability.—*Lancet*, Nov. 17, 1877.

On the Physiological and Pathological Excretion of Indican.

The method employed by Professor JAFFE (Virchow's *Archiv*, May, 1877) is to add to 10 cent. of urine an equal quantity of hydrochloric acid, and then pour down with a narrow pipette one or two drops of a strong solution of chloride of lime; the indigo precipitates. This method of treatment colours the urine red or violet, from the action of the test on some unknown constituents. If indican be present, the colour is dark green or blue. Often the urine must be filtered, to collect the indigo precipitate. The quantity of indigo is not proportional to the vividness of the blue, as in the absence of the unknown constituents a small quantity may give a distinct colour, while in the presence of a large quantity of the same unknown substances a larger quantity of indigo might be hidden, especially if the necessary filtration were omitted. For the quantitative estimation, a measured quantity of urine must be treated as above, the precipitate collected on a filter, washed with hot and cold water, finally with hot ammonia, dried, and weighed.

He has investigated the sources of indican in men and in carnivora. In the herbivora it may have some other source, and in their diet there are many allied substances. In men and the carnivora its dependence on the nature of the diet is unquestionable, and it appears to stand in direct relation to the nitrogenous principles. But it may also be formed from the albumen of the tissues, as he found it in the urine of starved animals, and notably in a case of carcinoma of the œsophagus. It is well known that A. Baeyer found in feces a substance which he called indol, with the formula C_8, H_7, N, a product of the pancreatic digestion; and Professor Jaffe finds that injections of a watery solution of this substance under the skin of dogs, whose urine was ascertained to be free from indican, were followed by the appearance of indican in that secretion. The oxidation process he represents by the following equation:—

$$2\ C_8\ H_7\ N \text{ or } C_{16}\ H_{14}\ N_2 - 4\ H + 2\ O = \underset{\text{(Indol)}}{C_{16}\ H_{10}\ N_2\ O_2}$$

Moreover, Nencki has succeeded in artificially oxidizing indol to indigo by ozonized air. Besides, he has isolated the substance described by Baeyer, and proved its identity with indol. Hüfner and Kühne have pointed out that the pancreatic ferment cannot produce indol from albumen, except in the presence of bacteria, so that it is really a product of putrefaction; but this, we know, may take place in the alimentary canal, and we know that the pancreas is, as Tiegel showed, the principal seat of bacteria in the living body, so that it can scarcely be doubted that the alimentary canal is the seat of the formation of indol in man and the carnivora, and that this is the source of the indican found in the urine. But is it the only source? Koukol-Yasnopolski has shown that indol may be formed in the liver and the muscles by a true putrefactive process, although they are shut off from the rest of the body. Jaffe observed an enormous quantity of indican in the urine of a case of ileus, and at first thought it was a pathognomonic sign of obstruction of the bowels, explaining it by the supposition that the greater quantity of indol, under normal conditions, passes off in the stools; but unfortunately in another case with the same symptoms there was no such appearance, and it is always absent in chronic constipation. He strove to solve this question by experiments on dogs, and found invariably that ligature of the small intestines was followed by the appearance of indican, while ligature of the great intestine was not. The increase was greater than could be accounted for by mere re-absorption, and he believes there was increased formation. In reference to the influence of fever on the production of indigo, he found no increase in croupous pneumonia, recurrent fever, or acute rheumatism, although he repeatedly

searched for it; but it was present in fevers with intestinal complications, enteric fever, gastro-intestinal catarrh, or diarrhœa, supervening in acute or chronic febrile diseases; he therefore concludes that fever, as such, is without influence on the production of indigo. He refers to Fraenkel's observation of an increase of indican under diminished absorption of oxygen into the system, and he regrets that he cannot add any information on this point. Going back to the origin of the increase of indigo in his dogs, he concludes that it was in the intestine, because it was shown to be entirely dependent upon the nature of the food previously eaten, animals which had received food poor in nitrogen showing no increase. He thinks the results of his experiments are easily explained. Obstruction in the small intestine leads to the stagnation of a large quantity of partially digested albuminous matter, in which the indol-forming putrefaction-process may go on with great facility, but the large intestine contains only the waste of the food, and its contents are less watery. Still, in a case of chronic obstruction of the colon, it might easily happen that the retention might be so great that stagnation would occur in the ileus, and an increase of indigo result. In acute diffuse peritonitis the amount of indigo is increased, from the cessation of the peristaltic action of the bowels, etc.; but when purulent peritonitis attacked his dogs, no increase occurred. This he cannot explain at present. In circumscribed peritonitis and in carcinoma of the peritoneum in man no increase of indigo took place. In reply to the question whether by examination of the urine an obstruction of the bowel can be localized, he says that the frequency of peritonitis and other complications, which may secondarily affect the small intestine, renders it very doubtful. He thinks the absence of indigo in a case of ileus would exclude diffuse peritonitis, but questions whether it would exclude a disease localized in the small intestine.—*London Med. Record*, Nov. 15, 1877.

—

Pneumogastric Nerves.

In an article in the *Gazetta Medica Italiana* for June, Professors F. Lussana and F. Ciotto describe the result of an experiment, in which they divided both pneumogastric nerves in a dog, the animal surviving for eighteen days, during which careful observations were made.

With regard to the respiration, the only phenomena observed were slowness, depth, and aphonia. On the other hand, there was no sign of suffocation; which would indicate that the vagi are not necessary for the maintenance of respiration, although they modify the respiratory movements. There was no hyperæmia nor atelectasis of the lungs. This would lead to the belief that the vaso-motor nerve-supply of the bronchi and lungs is independent of the vagi, or, at least, that it is partly derived from the sympathetic. Neither pulmonary emphysema nor bronchial catarrh was present; hence, while the share of the vagus in the innervation of the muscular fibres of the pulmonary vessels cannot be excluded, a weakened respiration is necessary for the production of catarrh or emphysema. The absence of any alimentary matter in the respiratory passages tends to show that the hypothesis of Traube is incorrect, which ascribes death solely to the entrance of food into the air-tubes.

The symptoms manifested by the circulatory organs were not in agreement with the opinion that the pneumogastric is a motor nerve of the heart. The circulation was accelerated, but the blood-pressure and the cardiac impulse remained normal.

The digestive process was affected both chemically and mechanically. The œsophagus and stomach were paralyzed. The amount of bile was increased, but on boiling the liver no glucose was obtained; while in the liver of a healthy dog, treated in the same way at the same interval after death, glucose was found.

From this the authors conclude that glucose is a product of the functional activity of the liver, in accordance with Bernard's theory.—*London Med. Record*, Nov. 15, 1877.

Materia Medica and Therapeutics.

Calabarin.

Mr. ABRAHAM (*Pharmaceutical Journal*, Oct. 20) says: Calabar bean has been the subject of fresh investigations by Messrs. Harnack and Withowsky at Strasburg, with the result of isolating a new alkaloid, to which the name Harnack's calabarin has been given. It differs from eserine or physostigmine, in that it is insoluble in ether, and more readily soluble in water.

The discordant effects noted by different experimenters with the preparations of Calabar bean, are ascribed to the fact that those preparations contain, in varying proportions, these two alkaloids, which are in their action totally different the one from the other.—*London Med. Record*, Nov. 15, 1877.

—

Detection of Iodine.

M. FILHOL describes in the *Journal de Pharmacie et de Chimie* for May a new proceeding to detect traces of iodine. A little pure potash is added to the liquid, which is then evaporated to dryness. The residue is exhausted with alcohol, and the alcoholic solution is also evaporated to dryness. This new residue is treated with water, a few drops of hydrochloric acid added, or a very little chromic acid. Into the mixture are poured two or three drops of sulphide of carbon, and the whole is then well shaken. The liberated iodine is dissolved in the sulphide of carbon, and colors it violet.

M. BARRAL describes in the same journal a method for recognizing iodine in cod-liver oil, and experiments on the absorption of iodide of potassium by animal fats. The oil is placed in a vessel, and burnt by means of a wick. The products of combustion enter a vertical condenser through a funnel-shaped aperture, and the liquid condensed is allowed to drop into a capsule. To the distillate is added caustic potash, and it is evaporated almost to dryness. Iodine is then tested for by means of starch solution and chlorine water, or concentrated nitric acid.

Experiments.—Half a gramme (7½ grains) iodide of potassium was daily given to a goat for eight days. During all this time the whole of the animal's milk was used in the preparation of butter. When purified and melted the butter weighed 60 grammes and contained iodine.

Half a gramme of potassic iodide was given daily for eight days to a goat having a kid. At the end of that time the kid was killed, and 50 grammes of adipose tissue were taken from the neighbourhood of the kidneys. Iodine could easily be detected in the products of consumption of this melted fat.—*London Med. Record*, Nov. 15, 1877.

—

Antifermentative Action of Boracic Acid and its Application in Therapeutics.

In an essay read before the Lombardy Institute of Science and Literature, by Professor POLLI, of Milan (an abstract of which is published in the *Annali Universali di Medicina* for August), the author observes that that study of the processes of fermentation, aided by the progress of organic chemistry and the minute researches of microscopists, has caused a great advance in the researches into the

means and agents capable of modifying, hindering, and arresting the phenomena of fermentation. Since his studies on the actions of sulphur, sulphurous acid, and the alkaline and earthy sulphites, which appeared to him to be the most certain antifermentative agents that could be tolerated by the animal organism, he has followed up all the others which have been from time to time discovered (*i. e.*—carbolic acid, silicate of soda, picric acid, salicylic acid, and boracic acid). Deferring the consideration of several of these agents, Dr. Polli for the present directs attention to boracic acid. He considers with Dumas (*Alcoholic Fermentation*, Paris, 1872) how some salts aid fermentation up to a certain point, such as bitartrate of potash, or at least allow it to run through its course without interruption; how other salts retard fermentation or render it incomplete, arresting the process when the liquid contains much sugar (bisulphite and hyposulphite of potash and soda, arseniate of potash, and borax); how often salts, finally, not only do not permit fermentation to be established, but prevent the decomposition of sugar (nitrate of potash, nitrate of soda, acetate of soda, chloride of sodium, sal ammoniac, cyanide of potassium, cyanide of mercury, and monosulphide of sodium).

In an appendix to the above-mentioned work, however, Dumas returns to the action which borax exercises on the fermentation of sugar under the influence of yeast, which, he says, deserves a special study, on account not only of the action of borax on yeast, but on the fermentative action of other substances analogous to diastase.

A solution of borate of soda coagulates the yeast of beer, and the supernatant fluid does not decompose cane-sugar, as watery solution of beer-yeast does. Solution of borax dissolves albuminoid membranes; those, for instance, which separate from egg-albumen when mixed with water. Dumas showed that this solution neutralizes the action of diluted yeast on sugar (alcoholic fermentation); the action of diastase on amygdalin, by which is produced essence of bitter almonds with prussic acid (amygdalic fermentation); the action of diastase, by which starch is transformed into dextrine and subsequently into glucose (diastasic fermentation); and the action of myrosine, by which the pungent essence of mustard is produced from mustard farina (sinapic fermentation).

Struck with the idea expressed by Dumas, that borax might exercise an influence on some animal poisons, Professor Polli imagined that it might have a great therapeutic application in those infective diseases, external and internal, which do not depend on the action of a living organized ferment capable of reproducing itself, as may be the case with contagious diseases, but which may be products of an organic substance acting chemically as a ferment, and analogous to diastase, synaptase, and myrosine.

Distinguishing, Professor Polli continues, by the name of living and organized ferment that which determines the transformation of sugar into alcohol and carbonic acid, of alcohol into aldehyde and acetic acid, of urea into carbonate of ammonia, etc., and applying the name of chemical or catalytic ferment to that which transforms starch into glucose, salicin into saligenin and glucose, sugar of milk into lactic acid, we may find in infective morbific agents an analogy sometimes with the first, sometimes with the second class of ferments. In the first category we will place scabies, variola, scarlatina, measles, syphilis, tinea, etc., and the efficient remedies for these will be the means which kill by chemical destruction, or which act as poison on the minute parasitic beings by which certain diseases are generated and diffused, such as monads, bacteria, vibriones, micrococci, etc. In the second class may be placed all the morbid products which act on the organism in a more or less rapidly deleterious manner, by the decompositions which they induce in some of its component solids or fluids.

In his researches on the actions of preparations of sulphur and on fermentative diseases, Polli had already commenced an investigation, the object of which was to discover what antifermentative agents could be administered to the animal organism in efficient doses without at the same time producing grave disturbance of the physiological functions. The sulphates were found to act in this way; and on investigating their *modus operandi*, he was led to conclude that they do not act as deoxidizing or reducing agents, but rather by their power over the molecular aggregations of fermentable and decomposible organic matters, which they render more resistent to the ordinary agents of decomposition, among which the ferments take the first place.

In the hope that boracic acid and the alkaline borates would be found to possess a similar property, Professor Polli undertook a series of experiments on vegetable and animal substances capable of fermentation and putrefaction.

He examined the action of boracic acid and of borate of soda on beer, on normal and diabetic human urine, on egg beaten up with water, on defibrinated ox's blood, on flesh, etc., and on entire bodies of small animals (birds, mice, etc.). At the same time, in nearly all instances, the effects were compared with those produced on the same substances by equal amounts of sulphite of soda, hyposulphite of soda, and sulphite of magnesia. The results were as follows.

Having exposed several small glasses of beer for thirteen days to the air at a temperature varying from 59 to 64° F., he found that in those in which boracic acid or borate of soda had been dissolved, the fluid remained clear and unchanged, while the pure beer had become acid, turbid, and covered with mould. Analogous results were obtained when milk was used instead of beer; as well as with healthy and diabetic human urine, with yolk of egg mixed with water, and with defibrinated blood. The last, when mixed with a solution of borate of soda, remain fluid, red, and inodorous for about a month, and presenting no bacteria under the microscope. As regards meats, the experiments of Hertzen were confirmed by Polli. For instance, a piece of the lean of pork soaked for twenty-four hours in a solution of boracic acid and borate of soda, and exposed to the air, did not present any sign of decomposition fifteen days later. The action of boracic acid and borate of soda is not yet well defined, but it appears probable that they act by catalysis.

As regards the sulphites and hyposulphites, employed simultaneously for the purpose of comparison, their antifermentative action was found to be inferior.

Regarding the therapeutic applications of boracic acid and borate of soda, it may be stated in general terms that they are useful in all internal and external processes of the organism which may be unattended by fermentable agents. Boracic acid has been used by Capelli of Fregionara (in pulmonary diseases); Ottoni of Mantua (catarrhal cystitis); Ayre, Cane, Fillippi, etc. Boracic acid and the alkaline borates are not oxidized by exposure to the air; when taken internally they do not remove oxygen from the organism, and are readily eliminated by the urine. The following are the formulæ ordinarily employed by Polli. *For external use:* ℞. Boracic acid, 2 grammes; water, 100 grammes; glycerine, 25 grammes. *For internal use:* ℞. Boracic acid, 2 grammes; water, 100 grammes; syrup of orange flowers, 16 grammes. A tablespoonful is taken every hour.—*London Med. Record*, Nov. 15, 1877.

—

Subcutaneous Injection of Defibrinated Blood.

Dr. SCHMELTZ, of Schlestadt, reports (*Annales et Bulletin de Gand*, June) a case of consumption with great weakness and intense anæmia, in which subcutaneous injection of defibrinated blood was employed. The patient was first seen by Dr. Schmeltz in March, 1874; he was then over sixty years of age, had been

sick for a long time, and was confined constantly to his bed, in consequence of extreme weakness. He was much emaciated, and almost all over his lungs there was dulness, bronchial breathing, and moist râles. He had hectic, and suffered from neuralgic pains, from frequent attacks of syncope, and from dyspnœa. His stomach soon became weak, and neither food nor medicines could be retained. Dr. Schmeltz then determined to try subcutaneous injection of defibrinated blood, which had been first recommended by Dr. Karst, of Kreuznach. The blood used was taken, by cupping, from the back of the patient's son, and was carefully defibrinated. Eight injections of five grammes (seventy-seven grains) each were made into the arms and legs at one sitting, consequently forty grammes (ten and a quarter drachms) in all were injected. The swellings caused by the injections had disappeared at the end of the second day. The operation was followed by a very rapid improvement in the general condition of the patient. His appetite returned; the pulse became dull and firm, and eighty per minute; the neuralgia, anxiety, palpitations, and extreme weakness were relieved, and he was able to sleep. Eight days after the operation he got up, and convalescence was thenceforth uninterrupted. The patient is still living, and in good health. During the last two years he has required no medical treatment.

Dr. Schmeltz thinks that this case proves that the hypodermic injection of blood may prove useful in many cases where transfusion is indicated, especially in cases of anæmia, in which the stomach rejects all nourishment and medicine.—*London Med. Record*, Nov. 15, 1877.

Medicine.

Recent Researches on Idiopathic (Essential or Pernicious) Anæmia of Addison.

(*Concluded from page* 441, *Oct.* 1877.)

Professor ROSENSTEIN, of Leyden, has published another case of pernicious anæmia in the *Berliner Klin. Wochenschrift* for February 26, 1877. He writes in complete ignorance of all the observations previous to those of Biermer and Immermann, and even thinks that this first case observed in Holland may serve to show that the disease is unconnected with any local circumstances in Switzerland and Suabia (!). The patient was a man aged 36, who was strong and well until attacked by "typhus" (enteric fever is meant) six months before he was seen. This lasted eight weeks, and he had never recovered his strength. Lately he had suffered from diarrhœa and œdema of the feet. On admission into hospital, November 3, 1876, he showed all the well-known symptoms described by Addison and Wilks, with a loud systolic murmur, audible at the apex and over the aortic valves, but not in the direction of the pulmonary artery. The morning temperature was normal, but between three and six in the afternoon it reached 101.5° F. The blood showed little or no increase of leucocytes, but marked diminution of red disks; these were remarkably pale, but retained their normal shape and formed rouleaux as usual. The microcytes described by Quincke and Eichhorst were absent. Minute ecchymoses were seen by the ophthalmoscope near both papillæ. The only symptoms, besides weakness, of which the patient complained, were a slight cough and headache, increased when sitting up in bed. Five grains of quinine were given three times a day with iron, but (as is well known in England) these remedies were without effect, the quinine not even reducing the evening temperature below 38.4 or 38.7 (101 or 101.7° F.).

On December 2d the patient fainted, and on recovery complained of short breath. There were physical signs of passive effusion in the left pleura and peritoneum, and death quickly followed from œdema of both lungs. *Post-mortem*, beside excessive anæmia of all the organs, nothing was found but enlargement of the liver and spleen; the cells of the former were in a condition of cloudy swelling, which Dr. Rosenstein refers to the preceding enteric fever. The spleen weighed 445 grammes (more than 14 oz.). Its internal condition is not mentioned, but apparently this enlargement is also regarded as of typhoid origin. The intestines, however, are reported as completely normal, and there is no mention of swelling of the mesentric lymph-glands. There was no fatty degeneration of the muscles of the heart. The marrow was pale red and showed no increase of leucocytes when compared with that of another subject. Charcot's octahedral crystals were present (a normal *post-mortem* appearance). The retinæ were carefully examined by M. Nykamp, whose report with wood-cuts is appended. He could find no rupture of vessels and no minute aneurisms, and the endothelium was perfect. He thinks that the red corpuscles found in the retinal tissues must have passed out by diapedesis. An analysis by Professor Trachiment showed that iron was present in the proportion of $\frac{1}{2}$ per cent. of dried liver, .227 in the dried splenic tissue, and .04 in that of the kidneys. According to an analysis by Oidtmann, the healthy liver contains .08, and spleen .15 per cent. of iron. The increase in the present instance may, Dr. Rosenstein thinks, be due to the steel he had prescribed (*Martialia—nicht viel*) rather than to destruction of hæmoglobin in these organs. The same excess of iron had been noted by Quincke, but in his cases also steel was given. In conclusion, the author remarks that, but for the retinal hæmorrhage, the case might have been mistaken for one of cardiac disease with (ulcerative) endocarditis.

Professors Gardner and Osler, of Montreal, publish in the *Canada Medical and Surgical Journal* for March, 1877, the following case, headed, "Progressive pernicious anæmia (idiopathic of Addison)." A man aged 52 came under observation in November, 1876. He had always been subject to diarrhœa, and also, with others of his family, to epistaxis. After family bereavement five years previously, he had begun to fail in health, and, very gradually, pallor and dyspnœa had appeared and increased upon him. He had lately had five or six loose motions daily, and his skin and mucous membranes were excessively pallid. There was no fever, no emaciation; he ate and slept well; the urine was normal, the liver and spleen not enlarged. The heart-sounds were unaffected, but there was a venous murmur in the neck. There was no increase of pigment in the skin, and no enlargement of lymph-glands. He was prescribed steel, and the diarrhœa ceased, but a loud bruit appeared, audible at both base and apex of the heart. As he became worse, the temperature occasionally rose to 101 or 102° F., but fell before death to 97.3°. He died in January, 1877, with vomiting, rambling, and other signs of exhaustion. The blood, examined during life with Hartnack No. 9 (immersion) oc. 3, showed the following characters. The white corpuscles were not increased in number. They measured $\frac{1}{2500}$ to $\frac{1}{1800}$ inch in diameter. They showed active amœboid movements, at the temperature of the room, for seven hours after the drop of blood had been mounted (without reagent) in a paraffin cell, and carried through the cold air for a quarter of a mile (see Ranvier's statement, *Traité d' Histologie*, p. 210). The red corpuscles formed rouleaux; as usual, a few were crenated, most of them ovoid, lozenge-shaped, or irregular, larger than usual, but of normal depth of colour. There were also a few much smaller ones, which were spherical instead of biconcave. None had nuclei. Measured with Hartnack, No. 16 immersion, one was as large as $\frac{1}{1533}$ inch, five

varied between $\frac{1}{2\,7\,5\,0}$ and $\frac{1}{2\,1\,4\,5}$, twenty-two between $\frac{1}{3\,0\,0\,0}$ and $\frac{1}{1\,2\,0\,0}$, and five between $\frac{1}{5\,0\,0\,0}$ and $\frac{1}{3\,0\,0\,0}$.

Necropsy.—The skin was of a pale lemon tint, the fat abundant, the nails incurved; no petechiæ. There were twelve ounces of fluid in the left pleura, and nearly as much in the right. The heart appeared practically normal, but on microscopical examination the fibres showed extreme fatty degeneration. This was absent in the muscles of the trunk, which were red in colour. The spleen weighed six ounces; the right kidney was congested, the left pale; the suprarenals normal; tonsils not enlarged; stomach and intestines normal; liver pale and not enlarged; mesenteric and other lymph-glands small; bloodvessels very empty. The marrow of the sternum, right fibula, and left clavicle, of a rib and a vertebra, was examined. It was dark red in colour, and showed the following elements under the microscope: (1.) Ordinary red marrow cells, *i.e.*, leucocytes, differing from white blood-corpuscles only in their somewhat larger size and more distinct nucleus; these were by far the most abundant. (2.) Ordinary red blood-discs, together with a smaller proportion ($\frac{1}{4}$ or less) of the minute spherical red corpuscles (Eichhorst's "microcytes") above described as occasionally found in the blood. (3.) Nucleated red corpuscles, spherical, and larger than ordinary blood-discs, varying from $\frac{1}{2\,0\,3\,7}$ to $\frac{1}{1\,7\,7\,4}$ of an inch in diameter. These are Neumann's "embryonic corpuscles." (4.) Large cells containing as many as five or six red blood-discs. (5.) *Myéloplaques*, only sparingly found in the sternum and rib. (6.) Fat-cells, absent (as usual) in the sternum and vertebra, and rib, present in small numbers in the clavicle (cancellous tissue or shaft?). (7.) Charcot's crystals.

This carefully recorded case is followed by remarks which bear chiefly on the condition of the blood and on that of the marrow. Since Eichhorst (*Centralblatt für die Med. Wissensch.*, June 24th, 1876) called attention to the presence of minute spherical red corpuscles in the blood of essential anæmia, Dr. Osler has seen them in another case beside the present, and, as above noted, they have been observed by Quincke and by Cohnheim. In other cases, however, recorded by Grainger Stewart (*Brit. Med. Journal*, July 8, 1876), by Bradbury (*ibid.*, December 30, 1876), and by Bradford (*Boston Med. and Surg. Journal*, May, 1876) their presence is expressly denied; and in other microscopical observations of the blood in anæmia, they are not mentioned. Moreover, Dr. Osler has found similar corpuscles in his own blood and in that of persons free from disease.[1]

With respect to the state of the marrow, Drs. Gardner and Osler remark that cases of anæmia lymphatica (leucocytosis, pseudo-loucémie) cannot be called Hodgkin's disease when the lymph-glands and spleen are not enlarged; but, when the red marrow alone of all the cytogenic structures is hypertrophied, the other symptoms of the disease would approach very near to the idiopathic anæmia of Addison, so that Pepper, following Immermann and Jaccoud, has suggested that essential anæmia is nothing but the myelogenous form of pseudo-leuchæmia, bearing the same relation to Hodgkin's disease that the rare cases of true leuchæmia with hyperplasia of the marrow do to ordinary splenic leuchæmia. Inasmuch, however, as in many cases of idiopathic anæmia the bones have been carefully observed and found healthy by Lepine (*Monthly Abstract of Medical Science*, 1876, p. 488), Burger, and Quincke, they believe that the cases of Cohnheim (Virchow's *Archiv.*, lxviii., 1876), Fede, Pepper, and Scheby Buch must be ranged with their own, as examples of myelogenous pseudo-leuchæmia (or

[1] On this point, see also a paper by Dr. Litten, reported in the *London Med. Record*, for March last (p. 120), and some careful observations by Messrs. Davy and Mackern of Guy's Hospital, published in the *Lancet*, May 5, 1877.

anæmia medullaris) though indistinguishable during life from idiopathic or essential anæmia.

Dr. Litten publishes, in the *Berliner Klin. Wochenschr.* for May 7 and 14 of this year, the following remarkable case from Professor Frerich's wards: A young woman had been suckling her own and another infant for several months, while herself ill provided with food, and in January last (1877), more than a year after her delivery, began to vomit all she took. When admitted to the Charité on February 11, she was already much exhausted and excessively anæmic, and loud venous and cardiac murmurs were audible. Retinal hemorrhages were also observed with the ophthalmoscope. There was no excess of white blood-corpuscles, but the red ones were greatly diminished, though normal in shape and without microcytes. The liver, spleen, and lymph-glands were not enlarged; and, though so weak and pallid, the patient was not emaciated. The chief complaint was of headache. The pulse was frequent and compressible, the temperature normal. On the 15th of February a remarkable increase of white corpuscles was found in the blood. These were larger and less granular than usual, and contained each a distinct large nucleus, or sometimes two (resembling medullary rather than ordinary or splenic leucocytes). On the following day only nine red could be counted to one of these white corpuscles; on the 17th the proportion was only 4 to 1. At the same time the patient became restless, and suffered from severe dyspnœa, without any evidence of œdema or other affection of the lungs. This rapidly increased, and on the 18th, only a few weeks from the appearance of anæmia and vomiting, and after three days of leuchæmia and dyspnœa, the patient died. There was neither albuminuria nor pyrexia while she was under observation.

At the necropsy the body was found excessively anæmic, but with plenty of fat, and the muscles red and healthy in appearance. The heart, on the contrary, was in an extreme condition of fatty degeneration. The liver and internal lymph-glands were normal. The spleen weighed 200 grammes ($7\frac{1}{16}$ ounces). The kidneys contained a number of minute white nodules, which proved on microscopical examination to be lymphomata. The tissue of the vertebræ and pelvis, the sternum and the ribs, was unchanged, but that of the long bones of both upper and lower extremities showed numerous spots like abscesses in their shafts; and their yellow marrow was turned into a soft pale material, which proved under the microscope to consist of the same large colourless cells, with distinct vesicular nuclei, which had been observed in the blood before death. The normal yellow marrow-cells (fat-cells) had almost entirely disappeared. No nucleated red corpuscles were discovered in the blood or in the marrow. Charcot's crystals were abundant.

The origin and course of the disease as one of idiopathic anæmia were well marked, and offered nothing more remarkable than its unusually rapid course, but the sudden and extreme increase of leucocytes was unexpected, and makes the case a unique one. The most acute cases of leuchæmia myelogenica on record are that of Küssner (*Berl. Klin. Wochenschr.*, 1876), which proved fatal in 18 days, and that of Immermann (*Deutches Archiv für Klin. Med.*, vol. xiii.), when the patient lived six weeks. In both these (as in many other cases of leuchæmia) there was pyrexia, which was remarkably absent in the present instance. As Dr. Litten justly remarks, it must be regarded as idiopathic anæmia, passing into medullary leuchæmia, and both running a very rapid course. Comparing it with four unpublished cases of essential anæmia, three from Professor Frerichs' wards during the winter session 1875–6, and one under one care of Professor Fischer at Breslau, in 1875, he remarks on their agreement in (the characteristic features pointed out by Addison) excessive anæmia, absence of

emaciation, fatty degeneration of the heart, and progressive and fatal course. The hemorrhages, whether in the retina or elsewhere, must, like the "tabby degeneration" of the ventricles, be regarded as consequences of anæmia, for cases are on record in which both were absent. The heart is often fatty (as described by Dr. Quain) in non-anæmic cases, though not usually so in ordinary leuchæmia; while hemorrhages in various parts are common in lymphatic and splenic anæmia (Hodgkin's disease and luchæmic splenica), so that their presence cannot be taken as diagnostic of essential anæmia. Dr. Leiden examined the retina to determine this point in nine cases of anæmia—three idiopathic and fatal, one from cancer of the uterus, two from hemorrhage after abortion, and three from hæmatemesis. There were retinal ecchymoses in all of these cases but two—one of essential anæmia, the other of anæmia due to hæmatemesis, which ended in recovery. After a full discussion of the ophthalmological side of the question, he concludes that neither retinal hemorrhage nor white atrophic centres in previous ecchymoses, nor the shining white patches seen in some cases of Bright's disease, are diagnostic of fatal anæmia. He confirms Nykamp's statement that the ecchymoses do not depend on miliary aneurisms of the retinal arteries like those in the brain; but he does not believe that they occur by diapedesis, and ascribes them to rupture of the capillaries.

In two of these four cases of idiopathic anæmia the bones were examined. In one there was no obvious change; but on microscopic examination numerous nucleated red corpuscles and microcytes were discovered. In the other, the marrow of the femur examined was of the colour of raspberry jelly; it showed a few minute red blood corpuscles (microcytes) and many more of the larger ones with nuclei described by Cohnheim, Osler and Gardner, and Rosenstein, beside abundant ordinary medullary leucocytes taking the place of the fat-cells of yellow marrow. These were also found in the blood taken in quantity after death, although during life no evidence of leuchæmia was afforded by examining a drop from the finger. By Welcker's method of allowing a quantity of blood to stand in a tall narrow glass, the slight coagulability which it possesses in these cases allows the formation of three layers by subsidence of serum, white corpuscles and red, and a judgment can thus be readily obtained of their relative proportion.

Professor Pepper, of Philadelphia, has published a paper subsequent to that mentioned by Dr. Lépine in the same journal (*American Journal of Medical Sciences*) for April, 1877, on the relations of idiopathic anæmia (which he proposes to name anæmatosis) with Addison's disease of the adrenals. It contains no fresh cases, but is based on a comparison of the two of the former affection, reported above, with a well-marked instance of the latter in a man aged 40. The characteristic bronzing of the skin and constitutional symptoms are carefully described while the patient was under observation for more than four years. *Post-mortem*, there was found the usual caseous affection of both adrenals, with a slight similar change in the apices of both lungs.

The likeness between the symptoms of the two diseases is less than Dr. Pepper supposes, and cannot outweigh the broad differences in their morbid anatomy. Even apart from the bronzing and the constant local lesion, the anæmia of morbus Addisonii is comparatively slight, the loss of flesh greater, hemorrhages and pyrexia almost unknown, and phthisis or other caseous change in other organs than the adrenals exceedingly common. The chief connection between it and essential anæmia is the historical one that both were discovered by the same eminent pathologist, and his acumen is proved by the fact that the accuracy of his statements, like his labours in the pathology of pneumonia and of phthisis, is only now beginning to receive due recognition. Almost at the same time that

Addison was separating the disease he called "suprarenal malasma," and that which he called "idiopathic anæmia," from the great group of chronic states of anæmia without previous hemorrhage, the illustrious Virchow was establishing the existence of another natural pathological species of anæmia under the title "leuchæmia splenica." The form of anæmia associated with enlarged lymph-glands described by, and often named after, Dr. Hodgkin, is a much less distinctly marked "disease" than the other three. This anæmia lymphatica is occasionally a true leuchæmia lymphatica, though such cases are very rare. It is often associated with enlargement of other cytogenic organs, beside the glands, the tonsils, liver, or Peyer's patches, as in the case described by Béhier of "pseudo-leucémie intestinale;" and finally it has been found, as in some of the cases enumerated above, to depend upon overgrowth of the red marrow (anæmia medullaris *v.* myelogenica). The last cases, of anæmia without leuchæmia, associated with the changes in the marrow above described, are no doubt often undistinguishable during life from cases of idiopathic anæmia; but since, as we have seen, the marrow is unaffected in many of the latter, we must still consider the two as pathologically distinct.—*London Med. Record*, Nov. 15, 1877.

Salicin and Salicylic Acid in Rheumatism.

Salicin and salicylic acid in the treatment of rheumatism may now be considered to have received a fair trial both in Europe and America, and the verdict of the majority of those who have employed the drugs is a favourable one. Among those who have published the results of their experience in this matter are many great authorities both at home and abroad, and the fact of their reports being couched in such strong terms as has in many instances been the case, in itself tends to show that in salicin and salicylic acid we have drugs which produce, in many cases of rheumatism, an effect hitherto not manifested by any other as yet known to us.

We lately remarked that there can be now little question that salicin and the salicylates, especially the latter, do exert an influence, in the cure of rheumatism, which is quite peculiar to them, and daily experience tends to confirm our belief. The striking success which attended the administration of these remedies in the earlier cases naturally encouraged the idea that they were to prove no less efficacious in rheumatism than quinine in ague. Facts have, however, been recorded during the past few months, both in our own columns and elsewhere, which show that, striking as are the effects of salicylic acid in many cases, we have as yet discovered no remedy which can be regarded in the light of a specific for rheumatism. The primary effects of the salicylic acid or its salts are—(1) a rapid, and in many instances an almost sudden, reduction of the temperature of the body; and (2) frequently a contemporaneous relief to the pains in the joints. In crediting any one remedy with the capacity for effecting these changes by its own action, we must be on our guard against attributing to a medicine a sudden recession of acute symptoms, which is by no means unfrequently met with in a disease so variable in its course as rheumatism, even when uninfluenced by any treatment at all. Accumulating records, however, serve to indicate that salicylic acid does possess this property of alleviating the pain and reducing the temperature in many cases of acute rheumatism. Out of seventy cases treated with this drug in the Leeds Infirmary during the year 1876, and recorded by Dr. E. H. Jacobs, in a paper read before the West Riding Medical and Chirurgical Society, "in thirty-five the improvement was so rapid as to leave no doubt as to the efficacy of the drug." This statement receives confirmation from an inspection which we have lately made of the register of a hospital in which twenty cases were treated with salicylates. The figures here show that the average duration of pain was barely three

days, while the temperature remained permanently normal after the second day. In daily practice, however, practitioners are brought into contact with two distinct varieties of acute rheumatism, which, if it be allowable to express them in terms of salicylic acid, may be called the salicylate and the non-salicylate form. The characteristics of the former are high temperature (about 103° F.), severe pain, and much redness of the affected joints; and it is in these cases that salicin or the salicylates effect such remarkable and sudden amelioration of the acute symptoms. The main features of the latter variety are a comparatively low temperature (about 99°), little or no redness of the affected joints, or, if present, the redness is in more or less circumscribed patches; severe pain, accompanied by great depression. In such the drugs have but slight effect; the temperature may be reduced even below the normal standard, but the pain persists. Similarly, in chronic rheumatism, the action of salicylic acid seems to be very uncertain; in some cases the pain is relieved, in others no effect is produced, and it is found necessary eventually to have recourse to other remedies.

A question arises, however, which is of the greater moment than for relief of pain and the reduction of temperature—viz., does salicylic acid prevent cardiac lesion in acute rheumatism? and this question can, it is to be feared, only be met with a negative. So far as present experience goes, the results of the salicylate treatment do not contrast unfavourably in this respect with other methods. Perhaps, on the whole, the comparison may even be deemed favourable. Thus, of 63 cases treated with salicylic acid in the Boston City Hospital during the past year, Dr. Brown found that cardiac lesions, which occurred after the admission of the patient, amounted only to 4.76 per cent. Out of 312 cases, published in England, America, and Germany, of which Dr. E. H. Jacobs gives the particulars in the paper already referred to, 9 cases, or 3½ per cent., were attacked with cardiac complications. It is not our purpose on the present occasion to institute comparisons between the salicylate and other methods of treating rheumatism, except in so far as they bear upon any point at issue; but we would parenthetically, in connection with Dr. Brown's report, call attention to a number of cases published by Dr. Blake in the Boston City Hospital Reports (first series), which were under the alkaline treatment, and in which the cardiac lesions were rather over 13 per cent. It would be manifestly unfair from so few cases to draw any definite conclusions for or against either method of treatment; all we would urge is, that the salicylates have hitherto contrasted favourably with other remedies, but that they do not confer an absolute immunity from cardiac affections. A striking case in illustration of this assumption was published in our columns at the close of last year (Nov. 11th), which occurred in the practice of Dr. Green at Charing-Cross Hospital. In this instance the heart's action at the time of the patient's admission is described as having been "somewhat heaving," but no thrill or murmur accompanied its action. The man was ordered fifteen grains of salicin every two hours, which was subsequently altered to half a drachm every four hours on account of the severity of the pain and the persistent elevation of the temperature. On the ninth day of the treatment decided evidence of endocarditis was manifest; on the following day pericardial friction was audible, and two days later the case was further complicated by an attack of pleurisy. This case is valuable as showing that, under some circumstances, salicin fails to reduce the temperature, to control the articular pain, or to prevent the affection of the heart. At the same time, any treatment which, as was lately remarked by one of our correspondents, has the property of subduing the more prominent symptoms in rheumatism, and of keeping them in abeyance until convalescence, is established, must tend materially to diminish the liability to heart disease.

We published in our last issue four cases showing the various effects of salicin

in rheumatic fever, one of them an example of rheumatic fever with hyperpyrexia. On the first introduction of the drug, as soon as its antipyretic properties were observed, it was hoped that it might prove especially beneficial under such conditions of excessively high temperature. Several cases are, however, now on record in which salicin and salicylic acid have been fairly tried, and with most unsatisfactory results, recovery if it occurred, being due to the application of cold, and apparently quite independent of the action of the drug.

Another case, furnished by Dr. Herbert Lilley, contains an account of a sequela to a case of rheumatism which, if it be due, as he supposes, to the effects of salicin or salicylic acid, is a matter for serious consideration in prescribing these drugs. Hitherto, however, necrosis of bone does not appear to have complicated cases of rheumatism under this treatment, and it is possible that in Dr. Lilley's case the necrosis may have been in some measure connected with the strumous habit of the child.

Toxic effects of salicin and salicylic acid in the form of delirium, deafness, tinnitus, are, nevertheless, of common occurrence in the course of the treatment, and it seems probable that in some instances they are due to impurity in the drug—that is to say, to its contamination with carbolic acid, while in others, and notably in cases where salicin has been employed, to some peculiar susceptibility on the part of the patient. These untoward symptoms disappear at once if the administration be discontinued or suspended for a time.

Dr. Murchison, in his communication to the Clinical Society last session on the subject of the treatment of enteric fever by salicylic acid, alluded to the fact that suppression of urine had occurred. In cases of rheumatism treated with salicylates which have come under observation, we believe, the urine has, in the majority, been diminished in quantity during the height of the fever, but has been again secreted in normal amount as defervescence was established, and this without actual suspension of the remedy. It has further been stated by some observers that albuminuria has been caused. Doubtless in many cases albumen may be detected in the urine of rheumatic patients, and it is possible that its presence is in some degree caused by salicylic acid or salicin. It is worthy of note that in twenty-two cases of chronic rheumatism which lately occurred in a metropolitan hospital, of which six were treated with salicylates, temporary albuminuria occurred in four, while of the remaining sixteen albumen was detected only in six.

An objection is now and again raised to the salicylate treatment on the ground that relapses are especially liable to occur, but so far as we are able to form an opinion, this objection applies equally, or very nearly equally, to other methods of treatment, and a reference to thirty-two cases lately under observation shows that a relapse took place in ten cases out of eighteen in which the salicylates were used; that recurrence of the symptoms sat in in four out of eight cases under alkalies, and in two out of six cases in which the treatment consisted of a combination of the alkaline and salicylate treatments. One case under alkalies suffered as many as four relapses, while in no case under the other treatments did the pain recur more than twice. Looking to the material at our disposal for a judgment, we incline to the belief that many of the relapses under the salicylate treatment are due to the fact that the medicine has been discontinued too early in the course of the disease.

It would appear, then, that we have in salicin or salicylic acid a remedy which, in many cases of acute rheumatism, with a temperature of 103° Fahr., or thereabout, is productive of most satisfactory results; while in rheumatic fever attended with hyperpyrexia it is apparently inert; that it does not confer an absolute immunity from heart disease; while in the low form of acute, and in chronic rheumatism its beneficial action is extremely doubtful. Further observations are

required for the elucidation, among others, of two points in particular—first, whether the toxic effects, which so frequently occur during the treatment, produce any permanent evil; secondly, what are the indications in any given case of rheumatic fever that the action of salicin or salicylic acid will be beneficial, negative, or deleterious.—*Lancet*, Nov. 3, 1877.

—

Syphilitic Cerebral Arteritis.

Under this title Mr. LANCEREAUX read (*Gaz. Hebdom.*, Sept. 7, 1877) a paper at the late meeting at Havre, in which he stated that the special anatomical character of this affection is localization at certain points of the arterial wall, the lesion commencing in the connective tissue of the artery, and proceeding on, in different cases, either to contraction or obliteration at such points, or to aneurismal dilatation. It varies from ordinary endarteritis by its tendency (like all syphilitic lesions) to remain circumscribed, and by its disposition to symmetry.—*Med. Times and Gaz.*, Sept. 22, 1877.

—

Hysterical Anæsthesia.—Injury to Spinal Cord.—Cerebro-Spinal Lateral Sclerosis.

At a late meeting of the Clinical Society of London (*Lancet*, Nov. 3, 1877), Dr. CAYLEY read notes of a "Case of Hysteria, with Contracture of the Lower Limbs, Anæsthesia, and Ischæmia, in a Boy," communicated by Dr. HENRY THOMPSON. The patient, fourteen years of age, son of a French father and English mother, was admitted into the Middlesex Hospital on May 10th, 1877. He had always been delicate, but had no definite illness till two months before admission, when he began to lose flesh, became low-spirited, and complained of vertical headache. He had occasional paroxysms of laughing and crying, accompanied by a hoarse barking cough and globus. For a month he had been unable to walk owing to paresis, rigidity, and distortion of his lower limbs. On admission his pulse, temperature, and respiration were normal, and remained nearly so throughout the case. His voice was almost inaudible, but was strengthened by weak faradaism. The legs were firmly flexed upon the thighs, and the feet extended as in talipes equinus. The genital organs were ill-developed. Anæsthesia and ischæmia were prominent symptoms from first to last, and on May 18th experiments were made to define these conditions, with the following results: At the time of observation he was very impassive, but the senses of sight and hearing were normally acute. There was complete cutaneous and deep anæsthesia, to ordinary and to painful impressions, on his cheeks, forearms, and in fact over the whole body; punctures were made down to the bone, and none of them were followed by any bleeding. Faradaism being applied to the right forearm, the seats of puncture began to bleed, but the anæsthesia persisted. Gold coins were then applied, and it was noticed that after their application for ten minutes, sensation returned over these regions, and punctures produced bleeding, the range of sensibility gradually diminishing in every direction from the area over which the coin was placed. These experiments were repeated on the 19th, 21st, 29th, and on several subsequent occasions, with invariably the same result. Like observations were made with other metals, insulated and non-insulated, and with wood, with the boy's attention drawn to it, or, on the other hand, wholly without his knowledge, but only with the gold could the above results be obtained. On one or two occasions the gold failed, but never when it had been applied as long as ten minutes. Once a puncture made into the leg, when he was asleep, produced pain and free bleeding. In about a month after his admission, he had so far recovered the use of his limbs as to be able to walk about with the aid of a stick. It was not

until fully three months after his admission that the anæsthesia and ischæmia passed away, and he left the hospital on Aug. 25th, able to walk fairly well, and with his sensibility and capacity for bleeding everywhere normal. With the exception of being treated for two severe attacks of bronchitis, shower-baths, faradaism, valerian, cod-liver oil, and iron, were the only remedies adopted. Dr. Thompson pointed out that the case was one of pure and simple hysteria in a boy who was singularly intelligent, thoroughly truthful, straightforward, and uncomplaining, but who appeared to have been foolishly indulged by an over-fond mother, was of rather an effeminate disposition, and was possessed of ill-developed genital organs. Possibly the latter was the main element in his predisposition. The symptoms included paresis and contracture, anæsthesia amounting to analgesia, which, unlike the majority of cases, was distributed equally on both sides. Thirdly, there was the strange feature of ischæmia, and lastly the influence of the gold coins. The author of the paper dwelt at some length upon the nature of this influence; he considered that what is known as the "moral" theory, which has the support of Dr. Russell Reynolds, although no doubt an element in this as in every other case of hysteria, could not altogether explain the result of this experimentation. For example, the gold was operative when the boy was told and believed it was silver, and the silver was inoperative although the boy believed it to be gold. On the other hand, so far as anæsthesia was concerned, a puncture made when the boy was fast asleep was evidently felt, and produced bleeding.—Dr. ALTHAUS said that the case was of considerable interest in connection with the experiments on metallo-therapy undertaken by M. Charcot at La Salpêtrière. He had himself seen the experiments, and entirely agreed in the conclusions arrived at by M. Charcot. There was no question as to these facts being facts, although their explanation might be difficult. The theory of the influence of mental and moral impressions could not be sustained, for in many instances the patients were unaware of the experiments being performed. Patients who were so completely anæsthetic as not to feel, not merely the prick of pins, but of lances thrust even to the bones without exciting hemorrhage, became sensible of the slightest ill-usage within fifteen or twenty minutes after the application of metals. How also could any mental operation produce the ischæmia? The temperature of the part, too, rose from 26° and 28° C. during the anæsthesia to 34° or 35° after fifteen minutes' application of metals. A like remarkable difference was ascertained in the muscular power before and after the experiments. All the cases in La Salpêtrière had further some affection of the special senses, as colour-blindness, deafness, anosmia, etc., all of which disappeared under the same means, so that after the application the ticking of a clock could be heard at a distance of three feet; ether, not smelt before, was readily perceived; and colocynth could be tasted, when it could not before the application. At present no *rationale* could be given of the *modus operandi* of the metals. Another interesting point was the transference of sensibility and of elevation of temperature from one side of the body to the other. Thus, after the application of the metals to the anæsthetic and analgesic half of the body, this became hyperæsthetic, the previously normal side becoming less sensitive. So also with temperature, muscular power, and special senses. The action of the metals could not be explained on electrical grounds; for, although undoubtedly the coins do give rise to electric currents, yet these, in the case of pure gold, are extremely feeble, deflecting the galvanometer-needle about three degrees; whilst a gold coin causes a deflexion of ten degrees, and copper, zinc, iron, one of from 60 to 80 degrees. Such currents resemble much the physiological currents in nerve and muscle, and it was difficult to believe that they produced the effects stated. Moreover, in the case read, the coins were on several occasions insulated by paper and silk.

Dr. BROADBENT could add but little to the ample account of Charcot's experiments just given by Dr. Althaus. He had himself seen them, and he noticed this fact—that many of the young girls who were perfectly insensible to and did not bleed after deep punctures with a large carpet-needle, were yet engaged in sewing. He had recently under his care a case resembling that related by Dr. Thompson. A young girl who had been a little out of health, and who presented none of the usual signs of hysteria, began to suffer from slight weakness in the arms and loss of sensation in the legs from the knees downwards. This anæsthesia was complete, and was associated with ischæmia. Metallic applications restored the normal condition, and Dr. Broadbent attributed the change to the effect of expectant attention, which might induce the return of sensation and circulation, just as it induces pain, in any region. In his case he did not try metal coins, but caused the patient to wear a brass garter below the right knee, without informing her of the result expected to ensue. In the course of a few days sensation returned to the right leg, the left remaining anæsthetic; and this again regaining its sensibility after the garter had been worn on it for a short time. Dr. Broadbent did not profess to understand the reason why now one metal and now another was operative, especially when the patient was unconscious of the application; and in his own case he could not say whether expectant attention, or some galvanic influence, was the reason of the cure.

—

Subcutaneous Injection of Ergotin in Neuralgia.

In an article on this subject in the *Gazzetta Clinica di Palermo* for June, 1876, Dr. S. S. MARINO sums up in the following conclusions.

1. In sunstroke and tic-douloureux, local hypodermic injections of ergotin have rapid and certain effects, superior to those obtained by all other remedies, including quinine.

2. The results are equally good in hemicrania.

3. In sciatica, ergotin may also give ready and brilliant results, but sometimes, from reasons which we do not yet know, it may completely fail, even in individuals in whom its use appeared at first quite successful. It is necessary to enlist new facts, in order to pronounce a definitive judgment on its value in this troublesome and obstinate malady.

4. It would also be useful to try the effect of the hypodermic injection of the fluid extract of ergot in other neuralgiæ, especially those dependent on blood-infection and cachexy. It is well known that, in diseases of the nervous system, it is not reasonable to trust to any one remedy; often, after remedies of the highest repute have been tried and failed, relief has been obtained from one of which little was expected. Even when the disease recurs in the same form, the same remedy does not always give useful results.

5. When injected under the skin, ergotin does not cause abscess, except in very rare cases, nor erysipelas, nor any other inconvenience. The injection is usually followed by more or less intense burning, sometimes pain; but both disappear in half an hour, if the seat of the puncture be dressed with small compresses dipped in cold water.

6. Sometimes after one, more frequently after two injections, the pain entirely ceases; but, in order to secure the advantage gained, it is advisable to continue the injections, in number from two to six after the first two, according to the severity of the neuralgia, and the length of time during which it has lasted.

7. Dr. Marino has not found it necessary to inject more than 20 centigrammes (3 grains) of the remedy; for adults, 15 centigrammes are ordinarily sufficient. He dissolves it in either water or glycerine.—*London Med. Record*, Nov. 15, 1877.

Cysts of the Epiglottis.

In spite of the innumerable follicles studding the mucous membrane of the larynx, and the general inclination of mucous membrane to produce cystic growths, cysts of the epiglottis are among the rarest forms of tumours observed on this organ. In a recent number of the *Berliner Klin. Wochenschrift*, Dr. BESCHORNER, of Dresden, has described a very interesting case of cyst of the epiglottis, and analyzed the different cases so far noted in laryngoscopic literature. Among 693 cases of polypus of the larynx, there were only 14 cases of cystic growths on the epiglottis—in other words, not more than two per cent. of all the cases observed. Most of these varied in size between a poppy seed and a bean, only three having attained the size of a cherry. The case of Dr. Beschorner is interesting from the fact that, in spite of its great size, there were no subjective symptoms. The patient was a young man who presented himself for an examination of his chest. The result being negative a laryngoscopic examination was made, and a tumour the size of a cherry was unexpectedly discovered on the anterior surface of the left half of the epiglottis. There were none of the unpleasant symptoms generally observed, when even the smallest foreign body happens to be situated in these sensitive parts. The diameter of the tumour was estimated to be rather more than half an inch; its colour, yellowish gray passing into red at its base, and its nature evidently cystic. The patient, refusing to admit of any operative interference, passed from under treatment, but a week later, being examined for the second time, the tumour was found to have burst spontaneously, and to have discharged most of its contents. Four days later no trace of the former cyst could be detected, and the patient stated most emphatically that he could observe no difference whatever in the sensation in his larynx since the rupture of the cyst.—*Med. Examiner*, Nov. 29, 1877.

—

Ulcerative Endocarditis.

Dr. WILLIAM CAYLEY, Physician and Lecturer on Medicine at the Middlesex Hospital, gives (*Med. Times and Gaz.*, Nov. 10, 1877) the following sketch of this affection and of its treatment:—

The disease known as ulcerative endocarditis was first described by the late Dr. Senhouse Kirkes, who published a case in the *Edinburgh Medical and Surgical Journal* in 1853; and it has since been carefully investigated by many pathologists, German as well as English, especially Virchow. The name is not happily chosen, as we often have ulceration of the endocardium in rheumatic and other affections, without the characteristic symptoms and effects of the disease; and we meet with all the phenomena of the disease, as in this case, without any ulceration. Professor Rosenstein, in "Ziemssen's Handbuch," as it is called, though it consists of some two dozen bulky volumes, terms it "diphtheritic endocarditis;" and considers the soft, friable layer of lymph or fibrine which is deposited on the inflamed endocardium as similar in its nature to the false membranes on the mucous surfaces in diphtheria, both being largely composed of the lower forms of fungi, bacteria, and micrococci. The term "diphtheritic" is, however, employed in so many different senses, and has already given rise to so much confusion, that I think it very undesirable to extend its use. I myself should prefer the name "infecting endocarditis," as one of the most prominent results is the infection of the blood with some morbid poison.

The disease is characterized by producing multiple embolisms, for the most part of the miliary form, and a condition of the blood which at present we must call by the general name of blood-poisoning, the indications of which are rigours,

fever, prostration, delirium, stupor. Embolisms are, of course, liable to occur in ordinary endocarditis, but here the principal consequences are due to the local effects of the embolisms; the miliary form, too, is less frequent, and the seat of the embolisms is not quite the same. In the brain the emboli due to detachment of vegetations in ordinary endocarditis usually get lodged in a branch of the middle cerebral artery, and produce hemorrhage and softening of the anterior part of the optic thalamus or corpus striatum, and, as a consequence, hemiplegia. In infecting endocarditis the embolisms are most common, as in this case, in the pia mater of the hemispheres, and from their small size do not necessarily cause any characteristic signs of cerebral lesion. The intestine, too, is much more frequently the seat of embolism in infecting than in simple endocarditis.

In both forms the kidneys and spleen are the most common seats of embolism.

The symptoms of the disease differ greatly in different cases, but are conveniently divided by Professor Rosenstein into two main forms—the pyæmic and the typhoid. The pyæmic form more resembles ordinary pyæmia, with which it is often associated. There are recurrent rigours, fever of a remittent or intermittent type, and local suppurations due to embolisms.

The symptoms of the typhoid form were well exemplified in this case. At the outset, rigours; often vomiting, which may continue through the whole course of the disease; high fever of an irregular type, the remissions and exacerbations often occurring at irregular times, and not necessarily morning and evening, as is usually the case in typhoid. Often there is profuse sweating. Together with these symptoms there is headache, vertigo, great prostration, dry brown tongue, sordes on the teeth, delirium, stupor passing into coma. Diarrhœa is often present, due no doubt to the intestinal embolisms, and the motions may contain blood. The spleen is enlarged, and the urine is almost always albuminous, and often bloody; in the present case this symptom was absent, though the kidneys were studded with miliary embolisms.

On auscultation of the heart we find the signs of valvular incompetency, and often also of obstruction of the orifices, and the bruits thus produced are liable to vary from day to day from the progress of the ulceration.

Infecting endocarditis does not appear to attack persons previously in good health. It may occur in pyæmia; it is also met with in the puerperal state, in which case, according to Professor Rosenstein, there is often a diphtheritic inflammation of the genital mucous membrane. It sometimes complicates the specific fevers, as smallpox or diphtheria. Sometimes the endocarditis of acute rheumatism takes this form; and occasionally, as in the present case, it supervenes in chronic valvular disease. If the disease be really due to an infection of the blood by bacteria, it is difficult to understand how, in the latter instances, this is affected.

The principal points of distinction between the typhoid form of infecting endocarditis and typhoid fever are these: First, the physical signs of the cardiac lesion. Endocarditis is not likely to occur as a complication of typhoid, though, of course, typhoid fever may attack persons suffering from chronic valvular disease. Next, the presence of one of the affections which are known to give rise to this form of endocarditis. Then there are the more sudden onset, the rapid course, the marked rigours, and the more irregular type of fever. The frequency of the pulse, and especially of the respirations, is usually much greater than in typhoid; this great frequency of the respirations was well marked in this case, and was out of all proportion to the pulmonary lesions, as appeared both by the physical signs during life and the post-mortem condition. Any local symptoms of embolism would, of course, tend to confirm the diagnosis. The presence of blood and albumen in the urine, indicating embolism of the kidney, is a very

important sign, though albuminuria is not uncommen in typhoid. Why this sign was absent in my case I am unable to explain. The rose spots of typhoid are of course absent. The delirium, the dry cracked tongue, the sordes on the teeth, the prostration, the diarrhœa, the enlargement of the spleen, are common to both diseases.

The disease appears necessarily to tend to a fatal issue, and is not amenable to treatment. On the view that it is due to an infection of the blood by bacteria, it has been proposed to give the sulpho-carbolates, quinine in large doses, salicine and salicylic acid, which are destructive to these organisms. As this case was regarded as probably one of typhoid fever, the patient was treated by the "antipyretic method," as it is called—that is, by reducing the temperature by tepid baths and large doses of quinine. Though I have not succeeded in obtaining the brilliant results which have attended this mode of treatment in Germany, I nevertheless regard it as the best way of treating typhoid with high temperature. Here the temperature resisted the treatment in a remarkable manner, and the chilling effect of the baths was very transient. In typhoid the temperature seldom resists the effects of a few successive baths and a large dose of quinine or salicylate of soda, which usually produce a reduction lasting for twelve or even twenty-four hours, and by repetitions of this treatment the temperature may be kept at a moderate height throughout the course of the fever. In this case I did not venture to give baths below 80°, as they were not very well borne, soon causing shivering and depression of the circulation. The use of stimulants was indicated by the great prostration, which, however, they were powerless to remove.

—

Gonorrhœal Rheumatism of the Heart.

M. Desnos read (*Gaz. Hebd.*, Nov. 16) a case of this affection to the Paris Hospital Society, observing that although these cases are rare, and usually pass unperceived, yet their true nature and connexion is sometimes brought to light by means of the intervening arthritis. About a month ago the subject of this case came into the hospital with acute bronchitis, the heart being then in a normal condition. Some days after the patient was seized with pains in the shoulder, which then localized itself in the sterno-clavicular articulation, and it was then discovered that he had gonorrhœa. All of a sudden he was seized with violent palpitation of the heart, and the diagnosis was made of narrowing and insufficiency of the mitral orifice; and œdema and infiltration of the inferior extremities, without albumen in the urine, supervened. At the autopsy a small ulcer was found on the mitral valve, together with a considerable vegetant endocarditis of the aortic valves and the whole of the interior of the heart. M. Fournier observed that this was certainly a case of gonorrhœal endocarditis, although important details were wanting. Was there sweating or fever present? In gonorrhœal rheumatism, in fact, the temperature is never high; and just as sweating is so abundant in ordinary rheumatism, it is absent in the form of the disease consecutive to gonorrhœa. A conclusive circumstance in this case was the seat of the affection, the sterno-clavicular articulation being the joint of predilection in gonorrhœal rheumatism. M. Desnos replied that in his case the temperature curves would not be conclusive owing to the pulmonary complications; but the patient had no sweats, and never before had suffered from rheumatism.—*Med. Times and Gaz.*, Nov. 24, 1877.

—

Systolic Retraction of the Intercostal Spaces.

Dr. O. Von Widmann (*Virchow's Archiv*, July, 1877) writes that, while undoubtedly systolic retraction of the intercostal spaces has been often noticed when

there were partial or complete adhesions of the heart and pericardium with the pericardial pleura to the costal pleura, it is also equally certain that these latter have in some cases been absent: and further that, when present, no retraction of the intercostal spaces has sometimes been observed. He regards as most important for the explanation of these phenomena, the change in the axis of the heart's longest diameter during systole, namely, the shortening of the right-to-left diameter. He says the systolic retraction proves only (basing ourselves on the results of physiological investigations of the changes of shape and position which occur in the organ during systole) that the heart lies in an anomalous position, and chiefly that it is twisted so as to lie, instead of with its anterior surface forwards, with one of its lateral surfaces towards the thoracic wall, or, in other words, that it is turned round on its long axis, in which position it may or may not be fixed by adhesions.

During systole, the heart undergoes a diminution of its right to left diameter; if now one of these sides be in contact with the thoracic wall, it will be withdrawn during systole, and in consequence the atmospheric pressure will force in the intercostal spaces But in spite of this twisting of the heart, these consequences may be prevented by emphysema of the lungs, as collections of air in the pleural sac, if the heart be not hypertrophied, if its movements be very feeble, or the intercostal spaces narrow, and the thorax very unyielding, etc.; that is, when the forming elements, retraction of the left lung, hypertrophy of the heart, strong cardiac movements, etc., are absent.—*London Med. Record*, Nov. 15, 1877.

—

Vertigo a Stomacho Læso.

Dr. BERGER (*Deutsche Zeitschrift fur die Prakt. Medicin*, August, 1877) relates a case of vertigo of this kind which simulated serious brain-disease. The patient, a medical man, was affected by sudden intense vertigo which completely disappeared on lying down quietly, but any active or passive movement of the body made him giddy and ready to fall. Locomotion had become quite impossible. From the absence of any other cerebral symptoms (there was only a very lively increase of reflex excitability) and on investigation the discovery of a loaded tongue, decided dyspepsia, antecedent frequent vomitings, slight icterus of the conjunctiva, and on one occasion the presence of a trace of bile-pigment in the urine, vertigo a stomacho læso was diagnosed. Appropriate treatment (rhubarb and soda) quickly improved him, but a tendency to vertigo persisted for some time.—*London Med. Record*, Nov. 15, 1877.

—

Gonorrhœal Peritonitis.

In a communication to the *Archives Générales de Médicine* for October and November, entitled, "Peritonitis and Subperitoneal Phlegmon of a Gonorrhœal Origin," Dr. FAUCON, after referring to the history of the subject from the time of John Hunter, the author of the first observation, and narrating in great detail a case that has come under his own notice, arrives at the following conclusions:—

1. Peritonitis and subperitoneal phlegmon should be ranked amongst the possible complications of gonorrhœa. 2. These accidents are only distinct effects of the blenorrhagic inflammation, propagated from the urethra to the peritoneum or the subperitoneal cellular tissue by the intermedium of the vas deferens the vesiculæ seminales, the prostate (perhaps the bladder, ureters, and kidneys), and the cellular "atmosphere" surrounding these organs. 3. Their appearance is, therefore, always preceded by the ordinary blenorrhagic complications, resulting from the preliminary inflammation of the tissues or organs which serve as intermedia (deferentitis, vesiculitis, etc.), so that they are true tertiary accidents of

gonorrhœa. 4. Gonorrhœal peritonitis may exhibit various points of origin, so that it has been met with in the pelvic region opposite the recto-vesical *cul-de-sac*, while at other times it arises at the internal orifice of the inguinal canal. 5. It may remain localized at the points where it has arisen, and there undergo a cure; but it may also become generalized, or at least extend to a more or less considerable portion of the abdomen, pass on to suppuration, and terminate fatally. 6. Subperitoneal phlegmon has been observed in the lumbar fossa, at the lower part of the internal iliac region, and of the anterior wall of the abdomen. It may terminate either in resolution or suppuration, but its influence is less mischievous than that of peritonitis. 7. When a subperitoneal abscess has formed, it should be opened as soon as possible. An energetic antiphlogistic treatment, the prolonged application of ice, and preventive *débridement* may arrest the development of the phlegmon, and prevent its passing into suppuration.—*Med. Times and Gaz.*, Nov. 24, 1877.

—

Gall-stones and Atheromatous Degeneration of the Arteries.

According to Dr. BENECKE, of Marburg, *Deutsches Archiv. für klinische Medicin, Band* 48, *Heft* 1, the formation of gall-stones may have its cause in one of two conditions: either there is a relative excess of the formation of cholesterine in the liver, so that this is separated in the gall-bladder just as acid urate of soda or crystalline uric acid is in concentrated urine, or there is a lack of the biliary salts which maintain the solution just as urates or crystalline uric acid are separated in the urinary passages by a diminution of soda or an excess of phosphoric acid in the urine.

He makes the following conclusions:—

1. The occurrence of gall-stones coincides in the majority of cases (about seventy per cent.) with the presence of atheromatous degeneration of the arteries.

2. Atheromatous degeneration of arteries (without gall-stones) is observed much oftener than gall-stones.

3. Gall-stones are of much more frequent occurrence in females than in males; degeneration of arteries takes place with about equal frequency in both sexes.

4. The occurrence of gall-stones is generally observed at an earlier period of life (from twenty years on) than the atheromatous degeneration of arteries.

5. Gall-stones are found in relatively greater frequency in patients suffering from carcinoma and in nervous congestion, or where the liver is very full of blood.

6. The occurrence of gall-stones and of atheromatous degeneration of arteries is relatively very often accompanied by an abundant formation of fat.—*Boston Med. and Surg Journal*, Nov. 1, 1877.

—

Case of Rupture of the Gall-Bladder.

In the Berlin *Charité-Annalen*, 1877, vol. ii., EICHHORST describes the case of a woman aged 62, who, after having suffered several times from gall-stones and jaundice, observed for some time a dark green colouring of the skin in the right hypochondrium. As this increased in extent, she was admitted into hospital, where necrosis of the skin was found to extend over a space limited by the lower border of the ribs, the middle line, the right Poupart's ligament, and the axillary line. Sensation was completely lost. In a circumscribed spot, corresponding with the region of the gall-bladder, there were fluctuation and tenderness. On the day after her admission, the skin over this part burst, and a hundred cubic centimetres of bile escaped, partly spontaneously and partly on pressure. A probe passed into a cavity with smooth yielding walls, which appeared irregular only above. After the removal of the necrosed abdominal wall, the fascia of the muscles was exposed as if dissected. There was no icterus; the

feces were brimstone-coloured; the urine was free from biliary colouring matter. In the course of three weeks the fistulous opening gradually closed; and almost at the same time the sclerotic, and very soon the abdominal wall, became jaundiced. The urine and feces remained permanently free from biliary colouring matter. Some days later, the wound assumed a diphtheritic appearance, the sensorium became affected, coma ensued, and the patient died. The amount of bile discharged through the fistula on each day after the first, averaged 18.6 cubic centimetres, never exceeding 25 cubic centimetres. On *post-mortem* examination, the cæcum and transverse colon were found adherent to the right half of the abdominal wall. The fistulous passage showed during life led into a cavity as large as a hen's egg, lying beneath the gall-bladder, and bounded by false membranes deposited about the gall-bladder and liver. This cavity communicated by an opening of the size of a pea with the gall-bladder, which was full of gall-stones. The bile-ducts both within and outside the liver were much dilated. There were multiple abscesses in the liver, and medullary cancer of the duodenum at the entrance of the ductus choledochus.

The discharge of the bile into the peritoneal cavity without causing pain, is interesting, as is also the small quantity of bile that was discharged daily. This quantity—which never exceeded 25 cubic centimetres—represented nearly the total amount of bile excreted, since (as examination of the urine and feces proved) none of it was absorbed or passed into the intestine. Eichhorst used this case for making experiments on the absorption into the bile of salicylic acid, sugar, and muriate of quinine; none of these were excreted with the bile, but were found in the urine. The result was the same, whether they were given by the mouth or by enema.—*London Med. Record*, Nov. 15, 1877.

Case of Anuria lasting Twenty-five Days; Recovery.

Dr. WILLIAM WHITELAW, of Cupar, Fife, records (*Lancet*, Sept. 29, 1877) the following extraordinary, and, it is believed, unique case of long-continued anuria which eventually recovered.

In May last, 1876, two out of six children, residing in a recently-built and well-constructed house in this neighbourhood, took scarlatina in a mild form, and made a good recovery. On returning from the seaside in the beginning of September the remaining four were attacked, three of them recovered well; but the fourth, a healthy boy, aged eight years, was the subject of the above very strange sequela. He was attacked on Sept. 11th, with marked throat symptoms and strawberry tongue; temperature never higher than 101°; rash almost imperceptible, and desquamation very slight. The existence of the other cases, however, left no doubt as to the diagnosis. He was quickly well, and, although not so strong as formerly, nothing particular was observed till Dec. 3d, when his urine was observed to be scantier than usual; and on the 5th, on being called in, I found him apparently in perfect health—appetite better than usual, tongue clean, pulse 80, temperature 98.5°, and skin natural. There existed a little pain and tenderness on pressure over both lumbar regions; there was no swelling of face, hands, feet, or abdomen; and during the previous twenty-four hours he had passed ten ounces of urine, clear in colour, sp. gr. 1018, and free from albumen. He was ordered a hot bath; poultices over the kidneys; to drink as much fluid as possible; and a mixture of acetate of potash, squill, digitalis, and broom. On the 6th I found he had passed only two ounces of urine, but he had perspired very freely after the bath. He was eating and sleeping well. On Dec. 7th there was voided only one drachm of urine; and *from this date till the 20th not one single drop*, and yet, with the exception of slight headaches, his general health continued excellent. During this time three or four liquid stools daily were procured by the exhibition

of compound jalap powder, and diaphoresis was maintained by baths and poultices. On Dec. 19th Dr. Lumgair, of Largo, saw him in consultation, and could scarcely credit that suppression had gone on so long without the supervention of dropsy or any symptom of uræmic poisoning. He suggested vesication over the kidneys, and in twenty hours after the application of the blister two ounces of urine, free from albumen, had been passed; and I hoped that the kidneys were now roused from their state of torpor (for it seemed to be that, more than actual nephritis). No more urine was, however, secreted; and on the 27th the blister was repeated, but this time with no successful result. The baths, poultices, and jalap were now discontinued, in the belief that the urea was being removed by these means, and that, by ceasing diaphoresis and purgation, the kidneys might be *forced* to resume work. The diuretics were, however, continued. This change of treatment made no apparent difference. The bowels acted twice daily of their own accord, and the boy continued in excellent health. On the 31st December there appeared very slight œdema of the feet and ankles; and on the morning of January 2d one drachm of urine was passed. On the same day, with the aid of Dr. Fraser, superintendent of the Fife and Kinross Asylum, electricity was applied to the spine and through the kidneys, and a small catheter was passed into the bladder, in the hope of exciting reflex action. On the 3d and 4th January about the same quantity was passed daily; and on the 5th a whole pint was voided in small quantities at eight different times. Since then the kidneys have acted well, and the boy has (Jan. 12th) quite recovered.

The following points seem of interest:—1. Twelve weeks elapsed from the date of taking scarlatina (which was of a very mild nature) till the suppression took place. 2. With the exception of two ounces passed on the thirteenth day, there was complete anuria for twenty-five days. 3. Except slight headaches, and latterly slight œdema, there were no uræmic or dropsical symptoms throughout. 4. There was no albuminuria and no febrile action. The kidneys seem to have been in a state of torpor, and their work must have been carried on by the bowels, skin, and to some extent by the lungs. 5. It is hard to say what share the treatment had in the final happy result. Vesication at first seemed beneficial, but a second trial had no such effect. Then one drachm of urine was passed before the application of the battery, and therefore the credit cannot be entirely due to it. Probably, ceasing diaphoretics and purgatives, and thus throwing the entire duty of excreting the urea on the kidneys, was the best line of treatment that could be adopted, although at first sight a somewhat risky proceeding.

I may add that the boy was closely watched, night and day, by his parents and the servants, and was offered rewards to induce him to micturate; so that the idea of deception cannot be entertained. Drs. Lumgair and Fraser, although at first sceptical, are as much convinced of the genuineness of the case as I am myself.

—

Peritonism and its Rational Treatment.

Under the title of peritonism, Professor GUBLER studies (*Journal de Thérapeutique*, No. 20, 1876, and Nos. 2, 3, 4, 5, 6, 1877) the multiple symptoms resulting from troubles of the peritoneum. The conclusions of his memoirs are as follows:—

1. The serious complications of abdominal lesions attributed to peritonitis, do not really belong to that phlegmasia. They are sometimes absent in the most intense inflammations, and sometimes appear without any notable inflammation of the serous membrane of the abdomen.

2. The course of symptoms, superadded to traumatic or spontaneous lesions of the abdomen, consists of sympathetic or reflex disturbances of the great functions of circulation and hæmatosis. I have given it the name of peritonism, so as to

express its nervous character, and to show its independent nature in relation to peritoneal phlegmasia.

3. The contingent character of these accidents, the unenviable privilege of their possession, inflicted on the human race, compared with the relative immunity of the animal species, all these circumstances combine to show that the development of peritonism is due to excessive impressionability as well as to exaggerated reaction of the sympathetic nervous system in particular races or predisposed individuals.

4. Hence it may be hoped that, by diminishing this susceptibility, and restraining the reflex actions which result from it, patients will be placed in conditions favourable to the regular evolution of the local morbid process, without running the risk of the advent of general complications which frequently cannot be arrested. Here, perhaps, more than in any other case, prevention is better than cure.

5. It is, therefore, important in the course of primary local affections, as well as in the abdominal localizations of general diseases, to follow with an attentive eye the rise and progress of the lesion, so as to intervene in time to prevent the development of sympathetic complications. This care is particularly demanded in cases of typhoid fever, with deep ulceration of the ileum, involving Peyer's patches, in those of intense typhlitis and perityphlitis, of suppurative hepatitis, inflammation of the gall-bladder, of simple or cancerous ulcers of the alimentary canal, of acute inflammations of ovarian or other cysts, of circumscribed metro-peritonitis or peritonitis having a tendency to suppurate.

6. So soon as the phlegmasia, having become intense, arouses an acute sensibility of the belly, with distension of the region, in consequence of muscular atony of the intestine, and gives rise to indications of repercussion over the whole ganglionic system, the medical man should intervene with the view of assuring the tolerance of the nervous system, of reducing the impressionability of the trisplanchnic nerves, and the reactions of the reflex centres, and of lowering the exquisite nervousness of the human race to the level of that of the animal types immediately below it.

7. Such means undoubtedly exist in our therapeutic arsenal. The large class of nervines offers us various kinds, on the efficacy of which clinical experience has already given judgment; such are narcotics, and above all opium, as well as the diffusible stimulants, amongst which alcohol holds the first place.

8. Anæsthetics, however, principally ether and chloroform, play a considerable part in the prophylaxis of peritonism, where foreseen and intended lesions are in question, that is to say, surgical operations on the abdominal organs. Not only is ovariotomy rendered easier by prolonged anæsthesia, but the success of this great operation is scarcely possible except on this condition.—*London Med. Record*, Nov. 15, 1877.

Effects of Irritation of the Skin in Syphilitic Persons.

TARNOWSKY (*Archiv. für Dermatologie und Syphilis*, 1 and 2 Heft, 1877) states that, when the skin of a person suffering from syphilis is irritated by caustics or by inoculation of various morbid products, the course of the wound differs from that which is observed in the skin of healthy persons subjected to the same influences, the amount of reaction and induration varying according to the interval which has elapsed since the date of the infection The results of a large number of experiments have convinced him that the soft chancre and the infecting syphilitic sore are the product of two distinct virus, which are not interchangeable. The sores produced by Bidenkap, Reder, and Köbner on syphilitic persons by inoculation, and which they have described as soft chancres, are, he maintains, distinguishable by their form, course, absence of chancre-buboes, and results when

inoculated from the true soft chancre; and are simply the characteristic effects of irritation of the skin in the syphilitic. In opposition to the theory that the soft chancre is produced by concentration of the syphilitic virus, he states that he has practised inoculations with the chancre virus diluted to various degrees, but has never produced thereby any other form than that of the soft chancre.—*London Med. Record*, Nov. 15, 1877.

—

Partial Baldness.

The pathology of Alopecia areata, or Area Celsi, has of late years attracted much attention among dermatologists, and various attempts—not very successful, it must be admitted—have been made to explain the formation of circumscribed, smooth, more or less circular, hairless patches on the scalp and other hairy regions of the body. The latest contribution to this question is a lecture by Dr. P. MICHELSON, of Königsberg (Prussia), in No. 120 of Volkmann's *Sammlung Klin. Vorträge*, in which the author unreservedly rejects the idea of a parasitic origin for Alopecia areata (Gruby, Malassez), and regards the disease as due to arrest of growth in the hair itself, "leading," as Bärensprung puts it, "to a more scanty production of the cellular elements out of which it is developed." The structural alterations in the root of the hair—loss of its bulbar swelling, absence of defined cellular elements in the root-sheath, fibrillary splitting of the shaft in a longitudinal direction, etc.—described by Michelson and others (curiously enough, no allusion is here made to the papers of Duckworth and Bristowe), are not characteristic of Alopecia areata, but are met with in other diseases in which the nutrition of the hair is interfered with. What is it that causes these alterations in the case of Area Celsi? Will the neurotic theory explain them? and "must," as Duhring says ("Diseases of the Skin," 1877), "the fall of the hair be viewed as a state of perverted innervation, and can the suddenness of the attack be only accounted for by regarding the nervous system at fault?" Michelson answers that, in the first place, the symptom of *diminished sensibility* of the affected skin, which is usually regarded as a proof of perverted innervation, is not constant, and he gives the details of some careful observations on a case of his own, in which the sensibility was, on the contrary, *increased*. The headache, which not unfrequently accompanies the development of the affection, he also regards as not improbably due to a chronic inflammatory process in the soft tissues of the head, and he points out that the instances of loss of hair or baldness following injuries of nerves will not bear very close examination, and that this symptom is not mentioned as having occurred in any of the numerous cases in which section of nerves has been performed by modern surgeons. Further, it is not certain that those alterations in the growth of hair and the nutrition of the skin, which have been reported as following gunshot injuries of nerves (Weir Mitchell, Fischer, and others), and which have been referred to lesions of "trophic" nerves, are really due to the latter, for it has been shown by Kölliker that some at least of these alterations occur if a limb is, as was the case in the above instances, confined for a long period in a close-fitting (plaster of Paris) bandage.

In any case only quite a small percentage of nerve-lesions is followed by alopecia; and to explain the occurrence of such a symptom as the general diffuse baldness, which is sometimes met with, by a neurotic agency, it would be necessary, as Michelson says, "either to accept the hypothesis of a gradual implication of all the 'trophic' nerves of the skin, or else that of a trophic centre in the brain or spinal cord, which becomes the seat of a gradually progressive disease."

The existence of such a centre is absolutely hypothetical, and by no means probable, and the evidence in favour of a lesion of "trophic" nerves is also

extremely slight. Hence Michelson concludes, and we think justly, that "the neurotic origin of Alopecia areata is, in the present state of medical science, an unproven hypothesis." He confesses, however, that he is unable to substitute for it a better one, but he agrees with Hutchinson that one element in the causation of the disease is "a lowering of the general nutrition of the body." Another element (purely hypothetical) may possibly be a diminution in the calibre of the bloodvessels, which would explain the remarkable pallor of the affected skin; and, lastly, the *disappearance of the subcutaneous cellular tissue, and thinning of the skin itself*, which is a nearly constant symptom (according to Michelson), may constitute an earlier stage of the same process which ends in loss of hair, though, of course, until we know why the subcutaneous tissue, etc., atrophies, we are no nearer to the true explanation of the origin of the disease than we previously were.

It is evident from the foregoing that Alopecia areata is still an unsolved mystery. Whether careful microscopic examinations of sections of the *skin* in the diseased area, which are much needed, will eventually throw any light on its *rationale*, we cannot say, but persons with a love for original investigation may be reminded, in the words of an anonymous English author, with which Dr. Michelson closes his lecture, that "there is no subject that more invites the study of those who would fain leave science more advanced than they found it."—*Med. Times and Gaz.*, Nov. 17, 1877.

—

Ova of Oxyuris Vermicularis on the Human Skin.

Michelson (*Berliner Klinische Wochenschrift*, No. 33, 1877) describes the case of a boy, in whom an eczematous condition of the scrotum was produced by the ova of oxyuris vermicularis. They were embedded in the epidermis. The boy was known to have long suffered from this entozoon. Its conveyance to the anterior surface of the scrotum (the posterior surface being free) was due to a habit the boy had of tucking the front skirt of his shirt between his hips.—*London Med. Record*, Nov. 15, 1877.

Surgery.

On the Treatment of Hemorrhage.

M. Crêquy proposes (*L' Union Médicale*) in cases of severe epistaxis, to substitute for the ordinary plug—the application of which to the posterior nares is often very difficult—the following mode of injecting perchloride of iron, whereby the full styptic effect is secured without the dangers with which the use of that remedy is not unfrequently attended. An ordinary syringe is fitted with a canula about two and a half inches long, terminating in a rounded extremity, and perforated throughout its length by a series of small holes, spirally disposed, and directed backwards, so as to emit small retrograde jets. When the canula is introduced horizontally into the nasal fossa, and the syringe filled with a solution of perchloride of iron, the injected fluid is thrown upon the mucous surface, and does not fall upon the pharynx or stomach. Generally one injection is sufficient. For hemorrhages in general, and especially for metrorrhagia, M. Ricord finds injections of hot water at 50 deg. centigrade (122 deg. Fahrenheit), applied through a tube to the neck of the uterus, to be an almost infallible mode of arrest. —*London Med. Record*, Nov. 15, 1877.

Artificial Anæmia as a mode of treatment for Diseases of the Limbs.

A new application is suggested for Esmarch's elastic bandage, namely, as an anæsthetic and curative agent in painful inflammatory affections of the extremities. D. BERNHARD COHN, of Steglitz, relates (*Berl. Klin. Wochenschrift*, October 29, 1877) two cases in which the induction of artificial anæmia by the bandage was followed by great relief—a case of phlegmonous inflammation of the foot in a man of sixty-three, and one of simple œdematous inflammation of the forearm in a maid-servant; and he gives the details of a third case in which a practical cure resulted from Esmarch's method after all other modes of treatment had been exhausted. The patient, a boy of three and a half years, had white swelling of the left knee-joint of eighteen months' standing, with considerable enlargement of the condyles of the femur, and thickening of the tissues around the patella and the head of the tibia. There was great sensitiveness of the parts to pressure, movement was impaired, and walking only possible for a step or two, with lowered pelvis, and with the tips of the toes alone reaching the ground on the left side. After a few weeks' daily application of the bandage for fifteen to sixty minutes, the improvement was so great that the limb could be moved in all directions or handled without pain, the entire sole of the left foot could be brought to the ground in walking, and the gait was even on the two sides—in fact, all that was left of the former affection was a little swelling and limitation in the movement of the joint. Dr. Cohn, in his remarks on the cases, declares that in practice the idea that the increase of blood in the capillaries, which follows the removal of the bandage, will entirely undo the effect of the previous anæmia, is not sustained. He considers that the bandage acts mainly by relieving the congestion of the inflamed part, and perhaps by improving the conditions of diffusion between the tissues and the bloodvessels. He recommends an elastic band, one inch and a half wide, encircling the limb so that each turn overlaps the one below, and finished off with five to eight turns completely covering each other. He thinks that the bandage may be allowed to remain on the limb longer than we might *à priori* think justifiable, and that there is less danger of gangrene if both arteries and veins are completely compressed than if the compression be imperfect so as to close the veins and hinder the escape of blood, while it is still allowed to enter by the arteries. In the latter case, œdema, with enormous rise in the blood-pressure, must be the result. To avoid pain as much as possible, the final turns must not be tighter than absolutely necessary to stop the circulation. The questions, "How often can and ought the constriction to be renewed?" and "Is it better to use single *long* compressions, or frequent short ones?" require further experience to answer them satisfactorily.—*Med. Times and Gaz.*, Dec. 1, 1877.

On Sudden Death after Severe Burns.

At the recent Medical Congress at Munich, Professor PONFICK, of Göttingen, described some experiments he had performed with the view to discover the cause of sudden death after extensive burns. Scalding water was applied to dogs, and the results were classified with reference to the extent of the injured surface and the intensity of the heat applied. In all cases in which the burn was severe, important changes in the blood could be shown to take place a few minutes after the injury; the red corpuscles underwent disintegration, and were broken up into an infinite number of minute coloured particles. After a time, varying with their original quantity, these particles disappeared, but not without having set up serious disturbances in several organs remote from each other. The kidneys appeared to bear the brunt of the mischief; they excreted a large proportion of

the hæmoglobin which had been, to some extent, set free and was circulating in the blood. Their action in this respect, however, at least in severe cases, was accompanied by very severe parenchymatous inflammation, which was shown by the appearance in the urine of peculiar coloured casts by infarction of the uriniferous tubules, fatty degeneration of the epithelium, etc. Another portion of these fragments remained within the organism; it disappeared in the splenic pulp and the medulla of the bones, being taken up by the contractile cells, to undergo in all probability a gradual resolution. The reception of the particles by the cavernous tissue of these parts caused the organs to appear greatly enlarged, even to the naked eye, and to exhibit increased redness and succulence on section. Taking into consideration all the symptoms connected with burns, Professor Ponfick is inclined to believe that the fatal issue in many of the severe cases, and the serious symptoms in others which recover, are to be explained by the fact that the red corpuscles undergo extensive and sudden disintegration. He leaves as undecided the question as to how far acute uræmic poisoning may contribute towards the fatal issue. If this theory be true, transfusion would appear to be indicated as a rational therapeutic measure; and Dr. Ponfick recommends that in all urgent cases recourse should be had to this operation.—*Med. Examiner*, Nov. 29, 1877.

—

Cases of Branchial Fistulæ of the External Ears.

Sir James Paget, at a late meeting of the Royal Medical and Chirurgical Society, read a paper on this subject, of which the following is an abstract:—

The occurrence of branchial fistula in the neck has long been known; they were described first by Dzondi in 1829, who believed that such fistulæ to communicate with the trachea; but this, as shown later by Heuzinger, was doubtless a mistake. Indeed, it is likely that the three or four cases on record of congenital tracheal fistulæ in the middle line of the neck were due to abscess opening into the trachea, unless they arose from defective closure of the branchial arches in the median line, analogous to ectopia cordis, vesicæ, etc.

A writer in 1832 explained the occurrence of cervical fistulæ opening into the pharynx as due to the incomplete closure of branchial clefts; an opinion confirmed by many recent writers, especially Heuzinger, and Sir James Paget has himself met with three such instances. These *cervical* branchial fistulæ occur as two or three minute orifices on one or both sides of the lower part of the neck, and lead upwards to the œsophagus and pharynx; the lowermost being near the sternal end of the clavicle, in front of the sterno-mastoid muscle, the next opposite to the thyroid cartilage, and the highest between the thyroid cartilage and the hyoid bone. Often symmetrical when they are two in number, there may be two at the lower level and one at the upper; or a single fistula may occur on one side only. They vary in length from half to one-and-a-half inches in length, and barely admit a probe; and as a rule are closed at their distal ends, sometimes, but rarely, opening into the pharynx or upper part of the œsophagus. They have a smooth lining membrane, secreting a clear mucous fluid, which may be increased during bronchial or nasal catarrh. Rudiments of cartilage are occasionally found in connection with them, and may be homologous with cervical ribs. They undergo no change during life, and if it be requisite to treat them they may be cured by means of the galvano-cautery. Probably some rare instances of diverticula from the pharynx are branchial fissures closed externally, and possibly some forms of congenital cysts and ranulæ had a like origin.

Of branchial fistulæ in the *external ears* there is no account on record in this country, and foreign literature only yields six or seven cases, most of which are related by Heuzinger. The cases now described occurred in the family of a gen-

tleman perfectly well formed in other respects, who has himself a branchial fistula on the right side of the neck. His father and a sister, as well as four of his own children, had similar malformations; the fistula in two of the latter being on the left side, and on the other two symmetrically disposed on each side of the neck. But, in addition to these cervical fistulæ, the gentleman himself, his sister, and five of his children, each present fistulæ in the helix of one or both ears. These *aural* fistulæ are minute, their orifices small, and their canal half an inch in length, passing from below forwards and downwards, being less soft and flexible than the cervical fistulæ, producing no secretion, and giving no distress. The co-existence of the latter threw light upon those in the ear, and a similar coincidence had been recorded by Heuzinger. Hence these aural fistulæ are probable due to the incomplete closure of the upper or post-oral fissure, that part of it which does not enter into the formation of the Eustachian tube, tympanum, and external meatus. In other recorded cases the openings have been at the lower or anterior part of the helix or lobule of the ear. It is likely that such cases are not so rare as they seem; and, further, extensions of the same non-closure of the post-oral fissure might be seen in such malformations as complete transverse partition of the auricle, and one case in which a linear depression on the helix and anti-helix was continued on to the cheek was of like nature. There are now sufficient evidences of malformations due to incomplete closure of every one of the branchial fissures; these aural fistulæ being due to defective closure of the first fissure between the mandibular and hyoid arches, the upper cervical to the cleft between the thyroid and hyoid, the lower to the cleft behind the thyro-hyoid arch, and the fourth to the last cleft above the thorax.

Referring next to the association between these cases and those of "supernumerary ears," the author shows that they are found only over the lines of former branchial fissures, and may be considered as cutaneous opercular growths, homologous, though abnormally, with the natural auricles, which guard the first cleft. Mr. Birkett has recorded in the Pathological Transactions a case of a girl, seven years of age, with two supernumerary auricles in the neck, corresponding in position with the usual seats of the upper and lower branchial fistulæ. The tissues of the lobes and their fibro-cartilages were clearly distinguished in these auricles. Mr. Holmes, in his work "On Surgical Diseases of Children," gives an instance of a small pendulous body in the skin near the hyoid bone, towards which a small sinus passed from above, and in one of Heuzinger's cases a small fistula near the sterno-clavicular articulation was concealed by a flat process of skin. Similar abnormalities have been noticed in sheep, goats, and pigs. Dr. Allen Thomson long ago pointed out that malformations of the external ears were frequently associated with malformations in or near the first or mandibular arch, such as hare-lip and cleft palate, and the same association has more recently been noted by Virchow. The author of the paper had observed that many of the persons born with aural branchial clefts had become deaf, and thus have been instances, however slight, of the general law indicated by Dr. Allen Thomson. This was well illustrated by the cases upon which the paper was founded, and others have been placed on record. The occurrence of deafness could hardly be casual, but rather indicative, not of any material change in the structure of the ear, but of such a defect of textures as rendered them morbidly liable to disease. In an appendix to the paper a case, communicated to the author by Mr. Cumberbatch, is related, in which traces of the branchial fissures occurred in the helix of the ear; a small depression, large enough to lodge a No. 4 shot, being seated on the upper part of a peculiarly-shaped pinna.—*Lancet*, Dec. 1, 1877.

On a Hypogastric Urinary Fistula treated Successfully by the Actual Cautery.

Dr. PALLOTTI relates the following case in the *Bulletino delle Scienze Mediche di Bologna* for June, 1876 (abstract in *Annali Universali di Medicina*, September, 1877). B. C., aged 70, was in 1866 obliged to ride on horseback eight days consecutively among the Appenines, and, not being accustomed to this exercise, was attacked with severe prostatic inflammation accompanied with strangury; perineal abscess was also threatened. The prostatitis was treated energetically on antiphlogistic principles, by general bleeding, leeches, etc.: this, perhaps, prevented suppuration, but the strangury was not removed. The patient had retention of urine for four days, and the bladder was enormously distended; a catheter could not be introduced. In this state of things it was determined to puncture the bladder above the pubes. This was accordingly done, and three kilogrammes (about 6⅔ pints) of already decomposed urine were removed. The silver canula was allowed to remain *in situ* eight days: the inflammation of the prostate not ceasing, and the patient being unable to pass urine by the natural channel until the end of that time. In less than two weeks he had quite recovered from the prostatitis, and no longer had retention of urine, but the opening made by the puncture remained open, allowing the urine to escape and soil the clothes, giving rise to a disgusting smell. On account of the inconvenience the patient consulted Dr. Pallotti in July, 1866. He first tried cauterization with nitrate of silver, which he continued for two months without success; he then applied a suture, also ineffectually. He next had a button-shaped cautery made, having in the centre of the button a long conical beak for insertion into the interior of the fistula, so as nearly to reach the bladder. On October 2 the cautery, having been heated to a white heat, was introduced into the fistula and immediately withdrawn. The result was the production of a moderate but sufficient amount of adhesive inflammation. The subsequent dressing consisted in the application of a cabbage leaf greased with purified lard, and changed twice or thrice daily.

On the external aperture of the fistula a small scab formed, which at the end of nine days fell off, leaving beneath it a single drop of thick creamy pus, which, being removed, showed a number of granulations. These were touched twice with nitrate of silver, and the fistula was completely closed in a fortnight. He was seen by Dr. Pallotti five years later, the cure was permanent.—*London Medical Record*, Nov. 15, 1877.

Unilateral Gunshot Injury to the Spinal Cord.

Dr. GOWERS, at a late meeting of the Clinical Society of London (*Lancet*, Nov. 17, 1877), brought forward a case of unilateral gunshot injury to the spinal cord. The patient, who had been in University College Hospital, under the care of Mr. Heath, had fired a pistol into his mouth, and died sixty hours afterwards. The bullet had passed through the body of the second cervical vertebra, and had lodged between the arches of the atlas and axis on the right side. It had not penetrated the dura mater, but had driven a spiculum of bone through the membranes, and had bruised the cord between the second and third cervical nerves, the bruise being confined to the antero-lateral column, the anterior and posterior cornua, and the central part of the gray matter on the right side. All these parts contained many extravasations. The left half of the cord, both gray and white matter, was intact; and the right posterior column was simply swollen, apparently from œdema, there being only a few very minute extravasations in it. The symptoms during life were: Paralysis of the right arm and leg, complete always in the arm, and at first in the leg; after the first twenty-four hours there was slight power of moving the leg. There was hyperæsthesia, or rather hyper-

algesia, on the paralyzed side below the part supplied by branches from the cervical plexus; in the latter sensation was normal. On the opposite side there was no motor weakness, but there was complete or almost complete loss of sensibility to pain, with very little change in tactile sensibility. The reflex action was diminished, almost abolished, in the paralyzed leg; it was excessive in the opposite leg, in which sensibility to pain was diminished. The temperature on the side of the motor paralysis was uniformly higher, one or two degrees, than on the other side; and on the paralyzed side there was a peculiar change in the irritability of the muscles and nerves, that of the muscles being a less, that of the nerves a greater, than on the other side; the change was the same to each form of electricity. In commenting upon these symptoms, Dr. Gowers observed that the cross sensory and motor paralysis was in accord, although not completely, with the view now generally accepted. The slight recovery of power in the leg might be explained by supposing that some fibres of the antero-lateral column recovered functional power; but considering how easily the motor impulse is arrested for some time by a slight injury, he thought this explanation improbable, and that the recovery of power afforded support to Vulpian's opinion that the motor path, although crossing chiefly at the decussation of the pyramids, also crosses to a less extent lower down the cord, and that this subsidiary decussation for the leg had escaped, so that when the shock of the injury was over, there was some return of power over the leg. He pointed out that the slight change in tactile sensibility in the analgesic limbs affords support to the view that tactile and common sensation traverse different paths in the cord; and the undamaged state of the posterior columns is interesting in connection with the assertion of Schiff, that they conduct tactile impressions. The increased sensitiveness of the paralyzed leg, so common in these cases, but associated as it was here with diminished reflex action, cannot be ascribed (as it has been) to the withdrawal of an inhibitory influence on the gray matter of the lumbar enlargement. The contrast in this respect between the two legs in both sensibility and reflex action seems significant. In health reflex action in the legs is restrained by a higher centre, possibly, in man, the optic thalamus. The lesion of the right half of the cord which divided the sensory path from the left leg interrupted also this inhibitory influence. Hence it would seem that these two paths correspond. May not the opposite condition of the right leg be due to the intensification of the influence of the left optic thalamus? This would account for both the diminished reflex action and the hyperæsthesia, since the thalamus is a sensory centre. Its overaction may be due to the accumulation of the obstructed nerve-force in its fellow acting upon it by means of the commissural fibres. The difference in irritability of nerve and muscle must be interpreted as an abnormal state of the paralyzed limbs, was probably due to an irritative influence exerted by the lesion on the gray matter of the lumbar enlargement, and thence on the motor nerves. It is very unusual for a depression of irritability in the muscles to coexist with an increase of irritability in the nerves. The persistence of sensibility in the branches of the cervical plexus shows how high up in the cord these fibres decussate.

Dr. ALTHAUS said the case just read had been so carefully described and argued as to offer but little room for critical remarks. The views of Professor Schiff as to the special function of the spinal cord seemed to be confirmed by these researches of Dr. Gowers. Was the sense of temperature affected? Could the patient discriminate between heat and cold on the paralyzed side? He thought these varieties of sensation of importance. Then, again, was there any priapism? This condition was produced by lesions of the spinal cord; and it was an interesting question to determine what portion of the cord was involved when priapism took place, and also the degree of the latter following spinal lesions. The elec-

trical observations had evidently been made with great care, and he (the speaker) fully concurred in their interpretation.—Dr. BROADBENT agreed with Dr. Althaus that the extremely careful and accurate manner in which the case had been observed, and the wide knowledge displayed in its investigation, left very little room for discussion. Schiff's theory, that tactile impressions travel by the posterior columns, was confirmed by this case so far as it went; but, at the same time, there was always this difficulty about accepting that hypothesis—viz., that in locomotor ataxy there was no strict relation between the loss of tactile sensibility and the degree of ataxy. It was very common for a patient to be able only to interpret as a simple contact, and to locate the impression, a sensation which, in normal states, would give rise to pain; and, until this were explained, he must hesitate to accept the theory that pain, temperature, and tact have different channels. He thought himself that they travelled by the same channels, but were affected by different circumstances. Dr. Gowers's observation upon the increased reflex action on the side opposite to the lesion, and on which sensation was impaired, accorded with his own speculations upon the structural conditions of the spinal cord. He believed that the same cells receive impressions, whether these pass across and give rise to reflex actions, or whether they pass upwards and give rise to sensation. If either of the channels be divided, the other effect is intensified; so that here, where the sensory path was interrupted, the whole of the impression, instead of being shared between the two roots, reflex and sensory, is concentrated upon the former, and thus gives rise to intensified reflex activity. This explanation holds good for nearly all cases in which reflex actions are increased. Dr. Broadbent offered the following explanation as to the production of hyperæsthesia. In hysterical paralysis, where there was cutaneous anæsthesia with (as he mentioned at the last meeting) retention of the sense of tact, he believed the loss of sensation to be due to vaso-motor change, affecting the blood-supply to the cutaneous nerves. The converse might be true of Dr. Gowers's patient, where the vaso-motor paralysis might be a reason why an impression made on those nerves should give rise to hyperæsthesia. Dr. Broadbent concluded by again testifying to the great merit of the paper, which would remain as a most valuable contribution towards the elucidation of the physiology of the nervous system. Dr. BUZZARD inquired whether, when a certain amount of power returned, Dr. Gowers was able to test the muscular sense; and if so, did the observation confirm Brown-Séquard's view that the nerves of muscular sense pass into the motor instead of the sensory roots?—Dr. ALTHAUS asked why Dr. Gowers had reverted to the idea that the optic thalamus, and not the corpora quadrigemina, was the inhibitory centre of reflex actions.—Dr. GOWERS, in reply, said that the condition of the patient compelled him to limit his observations, and thus no attempt was made to test the muscular sense or the sense of temperature. There was no priapism. He thought there were reasons for believing that the optic thalamus has in man an inhibitory influence over reflex actions; amongst others, that hyperæsthesia and diminished reflex activity are frequently conjoined in cases of cerebral hemiplegia. He agreed with Dr. Broadbent as to the difficulties in the way of Schiff's theory—difficulties not only founded on the symptoms of locomotor ataxy, but on the structure of the posterior columns.

—

Lesions of Bone in Hereditary Syphilis.

In the *Gazette des Hôpitaux*, No. 111, we find some notes of an interesting lecture delivered by Prof. PARROT at the Hôpital des Enfants-Assistés, on "Bony Lesions by the aid of which we may diagnose Hereditary Syphilis."

"When young infants," he observes, "are emaciated, whether from the fact

of the disease itself or from any other cause, there are certain parts of the bony system on which it is possible, with a little attention, to discern certain indications of syphilis. The first region towards which the physician should at once direct his attention when he suspects in a child the existence of syphilis, and in the absence of all other clinical manifestations, is the inner surface of the tibia. There, in fact, in place of that habitual depression which exists in all healthy subjects of good conformation, is found a true bony tumefaction, in convex relief. Sometimes the swelling exists in a general manner, occupying the whole of the inner surface of the tibia; while in other cases, which are, however, exceptional, in place of this general thickening of bone we meet with small projections or tuberosities, separated from each other by depressions. Another point which should also be carefully examined is the lower part of the humerus. But while the tibia, owing to its superficial position, easily lends itself to investigations, these are less easily conducted on the humerus. This, in fact, especially at its lower end, is covered by numerous muscles and tendons, and the skin is notably thicker at this part; so that all these conditions impede the perception in a very evident manner, especially when not sufficiently habituated to it, of bony lesions, the existence of which it is of importance to verify. However this may be, when, in a child the subject of syphilis, we lay hold of the lower part of the arm, grasping it from before backwards, we find a more or less considerable increase of thickness of the humerus. Nothing, indeed, is more easy than to overlook this lesion, especially when not familiarized with this examination, and not accustomed to these children; but in doubtful cases it is sufficient, in order to convince one's self that the bone is really affected, to first of all grasp the middle of the humerus, and then let the fingers slide down to its lower extremity. We then perceive, on comparing the thickness of the diaphysis of the bone with that of the epiphysis, a pretty notable difference in favour of the latter.

"Another very important sign which you will meet with in a considerable number of cases, but at a somewhat more advanced age, about the seventh, eighth, or twelfth month, is the following: When the cranial surface is inspected, not only do we perceive that it is very devoid of hair (a circumstance common enough in individuals quite free from syphilis), but we are struck by the presence of prominences disseminated around the bregma and anterior fontanelle: on the two frontals at their obtuse angles, and on the parietals at the angles which border on the bregma, four more or less notable projections are observable—one on each bone. These projections or bumps are rounded, as if small orange-peels had been applied to these parts of the cranium. It is easy, by passing the hand over the cranium, to verify the existence of these prominences when they are not apparent enough to be recognized by simple inspection. Finally, there is another characteristic which should be mentioned, but which is much rarer than those which precede. In certain infants, and especially those which are not older than from a fortnight to two or three months, we observe in the continuity of the limbs one, and sometimes two, fusiform tubercles or true nodosities. At these points the bones seem set in a body of an olivary form. These lesions are especially met with in the femur and at the upper part of the limb, and they are due to fractures in process of consolidation, consisting of a semi-osseous, semi-fibrous callus, as is shown at the autopsy.

"Such are the lesions of the bones that are sometimes met with in infants the subjects of syphilis, and which, when present, are certain indications of the disease. The knowledge of the fact is the more valuable that you may frequently observe them in individuals who exhibit neither on the skin or elsewhere any other sign that might enlighten you on the subject."—*Med. Times and Gaz.*, Nov. 10, 1877.

Syphilitic Dactylitis.

In the *Giornale Italiano della Malattie Veneree e della Pelle* for August, 1876 (abstract in *Annali Universali*, September, 1877), Dr. R. GALAZZI relates a case of syphilitic disease of the fingers, which is interesting, both on account of its rarity, and of the points of diagnosis between it and other diseases with which it may be confounded.

The patient was a woman, aged 32, who became infected with syphilis soon after her marriage, having a hard chancre and indurated inguinal glands. Two months later she became pregnant; her hair then fell off until she was completely bald, and she had pain in the throat, with difficulty of swallowing and speaking. She was delivered at full time of a male child, which died of syphilis at the end of eighteen days. She then had a diffuse papular eruption over the whole body, for which she took protiodide of mercury. Under this treatment she improved so far as to be apparently cured. After a short time she again became pregnant, and was delivered of a second boy, who lived fifteen months. Within a few days after birth it had a papular eruption, followed by *plâques*, the voice became hoarse, its general health was impaired, and it died with epileptiform convulsions.

Four years from the first infection, nodules of tubercular lupus appeared on one arm, and became ulcerated. The patient was seen by Professor Gamberini, who treated her with iodide of sodium and biniodide of mercury. As, however, the symptoms continued to increase, she became a patient of the hospital at Bologna, where she was admitted four times in the course of seven years.

A year after this the patient observed an enlargement of the middle finger of the right hand, which became painful. After some time these phenomena improved, but returned as before at the end of a year with the following characters. The middle finger began to enlarge, and assumed the form of a cone, the base of which was formed by the first phalanx increased to three times the normal size; the swelling diminished in the second phalanx, leaving the last quite free. The same symptoms appeared in the metacarpal bones of the thumb and little finger, so that the hand was deformed, presenting anomalous curves. The skin was distended and of a violet colour, and near it were spread abundant varicose vessels, of elastic consistence, without fluctuation; the pain was not increased by pressure. The movements of the part were impeded. Professor Gamberini diagnosed syphilitic dactylitis, and prescribed iodide of sodium in increasing doses, with fixed doses of biniodide of mercury. Under this treatment, at the end of a fortnight, the feeling of tension diminished, the glistening aspect of the skin disappeared, the symptoms diminished, and at last entirely disappeared, and the patient left the hospital completely cured. In this case, Dr. Galazzi shows that the dactylitis appeared thirteen years after the first infection, and this is a point of much importance in the diagnosis between syphilitic dactylitis and spina ventosa. The scrofulous form of the disease always runs a chronic course, and appears in children; while syphilitic dactylitis is peculiar to adults, follows other secondary symptoms, and is not always confined to the bones, but may affect other tissues.—*London Med. Record*, Nov. 15, 1877.

Subperiosteal Amputation.

Dr. R. SCHNEIDER points out (*Berliner Klinische Wochenschrift*, No. 38, 1877) that one of the remote results usually met with in the stump after amputation, performed without any attempt being made to preserve flaps of periosteum, is attenuation of the end of the bone, the conical or pointed apex of which projects closely under, or, in some cases, through the surface of the tense and thin skin. During the healing processes, after amputation, the end of the bone becomes thickened through localized periostitis, but the inflammatory deposit is

subsequently absorbed. In consequence of diminished activity of the stump, atrophy of the remaining portion of the bone takes place, and the cortical layer becomes much reduced in thickness. In course of time, as the muscular constituents of the flaps waste, the extremity of the atrophied stump is covered merely by the skin or scar-tissue. According to Dieffenbach, the object to be attained in amputation, in addition to rapid and complete healing, is the formation of an efficient covering for the end of the bone. As the portions of muscle left in the flaps are usually absorbed, surgeons have of late years usually followed the practice of forming flaps of skin only, the stump, in most instances, being formed of one large flap from the anterior surface of the limb, and of a very small flap from the posterior surface. This method has one serious disadvantage. In case of any inflammation of the stump coming on during the healing processes, the skin of the flaps will retract to a considerable extent, and the end of the bone, after having produced ulceration through pressure, will protrude from the extremity of the stump and become necrosed. With the object of guarding against this result, Von Langenbeck proposed that the divided surface of the bone should be covered by a long flap of periosteum, formed in the course of the amputation. Several advantages have been claimed for this proceeding. In consequence, it is stated, of adhesion of the periosteum to the extremity of the remaining portion of the bone, necrosis may be prevented, and the risks of osteo-myelitis much diminished. The skin, it is assumed, is less likely to slough where a soft layer of periosteum is interposed between the flap and the sharp edges of the divided bone. Dr. Schneider holds that Von Langenbeck's proceeding does not always lead to such good results; and that, in most cases, the long and single flap of periosteum sloughs. For some years past he has, in most of his amputations, fixed over the end of the bone two short flaps of periosteum, each flap being carefully retained in connection with the superjacent muscular and other soft parts. The vascular supply is thus more likely to be kept up, the periosteum does not so readily contract, and leave exposed the end of the bone, and there is much less risk of necrosis. Should retraction of the soft parts take place, the edges of the bone at the end of the stump, being covered by muscle as well as by periosteum, would not be so liable to perforate the skin flaps. Finally, there would not be any direct adhesion of the skin to the extremity of the bone. Similar proceedings, though with certain modifications as to the size and number of the flaps, have been practised by Neudörfer, Billroth, and other German surgeons. Dr. Schneider, who has had considerable experience of this modification of subperiosteal amputation, gives a favourable report of it, and lays down minute instructions for its application to amputation in the different segments of the limbs.—*London Med. Record*, Nov. 15, 1876.

The Indications for Drainage of the Knee-joint.

Dr. J. Scriba, Assistant in the Surgical Clinic at Freiburg (Baden), recommends drainage of the knee-joint, instead of excision, in the following cases: 1. In acute serous inflammation, in the rare event of there being abnormal pain of sufficient severity to affect the patient's general health. 2. In acute purulent inflammation of the joint, as soon as there is distinct fluctuation; in the rare cases of osteomyelitis involving one or both epiphyses; in the purulent inflammation which may complicate pyæmia, pneumonia, acute infectious diseases, and phlegmonous erysipelas of the lower extremities. 3. In chronic serous inflammation of the joint. 4. In fungous inflammation—(*a*) where the fluid secretion in the joint exceeds the fungous granulation in amount, and where the cartilage is still intact; (*b*) where there is excess of fungous granulation, but where caries is still absent. The presence of caries is a contra-indication for drainage, and an

indication for excision. Scriba lays down the following maxim in opposition to those British surgeons who counsel very early excision: "The earlier a chronic fungous inflammation of the joint comes under treatment, the better hope is there of giving the patient a useful, movable knee-joint by means of drainage." It should be stated that Scriba only speaks of drainage applied to a joint *which is opened the moment the tube is inserted*, and not to one in which there is a previous wound, either surgical or accidental, of some standing. The operation, as performed by Scriba, is briefly as follows: An incision, two or three centimetres long, is made on either side of the patella down to the joint, and a thick drainage-tube inserted. If the bursa under the extensor muscles communicates with the joint, as is the rule, no further incision is needed. In the rare case in which it is isolated, an incision is made down through the quadriceps femoris, and a short tube inserted. The operation must be carried out *with the strictest antiseptic precautions*. Before the drainage-tube is introduced, the joint is swabbed with a soft sponge; in acute cases using a 5 per cent. solution of carbolic acid; in chronic cases, or where there is fetidity, a 12 per cent. solution of zinc chloride. The tube is then put in, and the joint washed out through it with carbolic acid (2½ to 5 per cent.) until the solution returns quite clear. During the injection the joint must be gently kneaded with the hand. In acute inflammation the tube must be removed as soon as possible. The greater part may be taken out after the third or fourth dressing, if the wound is perfectly sweet, and the remainder on the tenth to fourteenth day. If the secretion does not quickly diminish, the joint must be washed out again with carbolic acid, and the drainage somewhat prolonged; but the whole tube must never be left in after the tenth to twelfth day, for fear of irritating the cartilage on which it lies. In chronic cases, or where fungosity is present, the tube must be allowed to lie across the cavity of the joint for twenty to thirty days, in order to stimulate the lining membrane.—*Med. Times and Gaz.*, Sept. 15, 1877.

Midwifery and Gynæcology.

Employment of Anæsthetics in Labour.

M. PIACHAUD read a paper before the International Medical Congress of Geneva (*Gaz. Médicale*, Oct. 20, 1877), in which he advanced the following conclusions:

1. The employment of anæsthetics is, as a general rule, advisable in natural labour.

2. The principal substances which have been used for this purpose up to the present time are ether, chloroform, amylene, laudanum, morphia hypodermically, chloral by the mouth and by injection.

3. Of these chloroform seems to be preferable.

4. It should be administered according to the method of Show, that is, in small doses at the beginning of each pain, its administration being suspended during the intervals.

5. It should never be pushed to complete insensibility, but the patient should be held in a state of semi-anæsthesia, so as to produce a diminution of the suffering.

6. The general rule is never to administer chloroform except during the period of expulsion; but in certain cases of nervousness and extreme agitation it is advantageous not to wait for the complete dilatation of the os.

7. Experience has shown that anæsthetics do not arrest the contractions of the

uterus or abdominal muscles, but that they weaken the natural resistance of the perineal muscles.

8. The use of anæsthetics has no unpleasant effect on the mind of mother or upon the child.

9. In lessening the suffering, anæsthetics render a great service to those women who dread the pain; they diminish the chances of the nervous crises which are caused during labor by the excess of suffering; they make the recovery more rapid.

10. They are especially useful to calm the great agitation and cerebral excitement which labour often produces in very nervous women.

11. Their employment is indicated in natural cases until the pains are suspended or retarded by the suffering caused by maladies occurring previous to or during labour, and in those cases where irregular and partial contractions occasion internal and sometimes continuous pain, without causing progress of the labour.

12. In a natural labour, chloroform should never be used without the consent of the woman and her family.—*Med. Record*, Dec. 8, 1877.

—

Spontaneous Delivery in Contracted Pelvis.

In the *Aerztliches Intelligenz-Blatt* for September 4, 1877, Dr. WIERRER describes a case of labour in a primipara aged 30, who was the subject of a deformed pelvis, and whose labour terminated naturally. The patient was crooked-legged, with lateral curvature of the spine, and had a pelvis in which the conjugate diameter measured 9.9 centimetres (3.9 inches). The distance between the cristæ iliorum measured 27.4 centimetres (10.78 inches); that between the anterior superior spinous processes, 25.1 centimetres (9.88 inches). The pelvis was small, and appeared less roomy in the right half than the left. The patient had not been able to walk until she was three years old. The head presented in the second position; the pains began at two in the afternoon, and by seven in the evening the os was fully dilated. The membranes were ruptured, and the succeeding pains drove the head into the brim, so that the right ear of the fœtus could be plainly felt. The head descended to the floor of the pelvis twenty minutes after engaging at the brim. A few more pains accomplished the rotation of the occiput forwards, and the head appeared at the vulva. The lying-in and recovery were normal.—*London Med. Record*, Nov. 15, 1877.

—

Case of Puerperal Septicæmia, with Hyperpyrexia, treated by the continuous Application of Cold.

Dr. W. S. PLAYFAIR, Prof. of Obstetric Medicine in King's College, London, records (*British Med. Journ.*, Nov. 17, 1877) the following interesting case:—

On the 5th of August, at 5 P. M., I was summoned to attend Mrs. —, a young and healthy primipara. I found the head presenting, the pains frequent but slight, and the os undilated. The labour progressed perfectly naturally, the first stage being somewhat tedious and painful. At 7 A. M. on the morning of August 6th, the os had remained without further dilatation since 1 A. M., although the pains were frequent and of good character. The os was at this time of the size of a florin, the membranes not bulging at all through it. I suspected that the labour might be protracted by an excess of liquor amnii, and, therefore, ruptured the membranes with the best effect. The os now rapidly dilated, the head descended into the pelvis, and the child was born at 10 A. M.

I may observe, in passing, that the axiom of our text-books as to the paramount importance of keeping the membranes unruptured until the os is fully dilated, often leads to unnecessary delay. No doubt, some practical experience is necessary to decide upon the propriety of evacuating the liquor amnii; but, when the

pains do not steadily increase, when the membranes do not bulge through the os with each pain, and when the os is soft and apparently readily dilatable, the puncture of the membranes often saves your patient many weary hours of suffering.

The uterus now contracted strongly, but one drachm of the fluid extract of ergot was administered after the placenta had been expressed, as has been my custom for several years, with the view of keeping up continuous contraction.

At 6 P. M. the same day, when I again visited the patient, I found that there had been a distinct rigor, her pulse being 120, and the temperature 102 deg. Nothing was done that evening, as, this having occurred so soon after labour, I was in hopes it might have been due to some transient cause. Next morning, I found that the patient had had another rigor, the pulse being 130, and the temperature 103 deg. There was no tenderness over the abdomen, and the lochia were natural. I now washed out the uterine cavity freely with Condy's fluid and water, with the view of disinfecting any decomposing coagulum that might be lying within it and setting up septic mischief, and prescribed twenty grains of quinine to be taken immediately, and to be repeated at 8 P. M.; and a minim of tincture of aconite was given every half hour, under careful supervision, with the view of lessening the rapidity of the heart's action. Next morning, the pulse was 120, and the temperature 101.2 deg.; but the quinine had produced so much discomfort and throbbing in the head that I was obliged to discontinue its use.

The case now rapidly grew worse. Next morning, the fourth after her confinement, the temperature was 104 deg.; and in the evening 105.4 deg.; the pulse 130, small, thready, and feeble. There was no tenderness over the abdomen, but flatulent distension was commencing. There were occasional well-marked rigors; the complexion was of a dusky-yellow tinge, with distinct patches of a livid purple eruption coming out over the forehead and cheeks, disappearing, and coming out again (a phenomenon that continued, more or less, during the whole illness); the tongue was coated, but moist; in fact, the case had now assumed a most formidable character, and was a well-marked example of what I believe to be one of the worse types of puerperal fever, that in which there are no distinct local phenomena.

The treatment now adopted was the administration of abundant fluid nourishment in the form of milk and beef-tea; fifteen grains of salicylic acid every third hour, in the hope of lowering the temperature; six ounces of brandy in the twenty-four hours; and the washing out of the uterine cavity twice daily with antiseptic lotions. In the hope of lessening the persistent high temperature, Dr. Knowsley Thornton's ice-cap, which has been found so useful for this purpose after ovariotomy, was now applied. This gave great relief to the throbbing headache, which caused much suffering; but it produced no further diminution of the temperature than from 105.4 deg. to 104 deg. Next morning, August 10th, things were in no way improved. The temperature was 105 deg.; pulse 140; and the abdomen tympanitic. As the salicylic acid had not lessened the temperature, and as the pulse was very thready and feeble, it was discontinued.

Next day, August 11th, the patient was still worse. The temperature was 105.2 deg.; pulse 140. The intelligence was good, and she was able to take nourishment well; but, with the temperature at so high a mark, it was obvious that the chances of recovery were small indeed; and I now determined to try the effect of cold applied externally, with the view of lessening the excessive fever, on which the antipyretic remedies already tried had had no appreciable effect. Accordingly, at 4 P. M., the patient was enveloped from head to foot in a large sheet wrung out of iced water; this being rapidly changed every minute or so for another. The pack was applied for half an hour. The patient ex-

pressed herself as feeling no discomfort from it, but rather the reverse. The effect on the temperature, however, was slight, as it only fell from 105.2 deg. to 104 deg. At 11 P. M. the pack was again applied for half an hour; and, at the end of that time, the temperature had fallen to 103.2 deg. Next morning, August 12th, the temperature was 104 deg.; pulse 130. Her general condition was as before. At this time I had the advantage of meeting my friend Dr. Wilson Fox in consultation. It is well known that that gentleman is one of the first who, in this country, drew the attention of the profession to the systematic use of cold applications in the treatment of hyperpyrexia, and I thankfully acknowledge the great assistance I derived from his experience in the management of this anxious case. With his concurrence, it was determined to use the cold applications continuously, but in a modified form, since the complete envelopment of the body in iced sheets was very difficult to manage, and had not the marked effect of reducing the temperature which was expected. Accordingly, the patient lying on her back, three towels soaked in iced water were placed on the front of the body, one over the shoulders and chest, one over the abdomen, and one over the thighs. These could be frequently changed, and were managed by one nurse, while it had taken three people to apply the sheets that had been formerly used.

It is not easy by description to convey to you any accurate idea of the effects on the temperature which, from this time and through the remainder of the illness was taken in the mouth every quarter of an hour, except when the patient was asleep. During the whole of the day the modified pack was kept constantly applied, with manifest comfort to the patient; the temperature varying from 103 deg. to 104 deg. At 5 P. M. it registered 103 deg., after which it gradually fell, until at midnight it was 101.4 deg., when the pack was removed. The patient now had a little sleep, but the temperature rapidly rose, until at 3 A. M. it was again at 103 deg., when the pack was reapplied. Next day, August 13th, the patient was much the same. The temperature ranged from 102 deg. to 103 deg. The pulse was 130; the general condition unaltered. The ice-cloths were kept on nearly continuously night and day, the patient being obviously more comfortable when they were applied; and, when they were removed, the temperature at once showed a decided tendency to rise. The patient now and again slept for half an hour or so, took her food well, and had no diarrhœa; the abdomen was still tympanitic. The brandy was increased to ten ounces *per diem;* twenty minims of the tincture of perchloride of iron were given every four hours; and nourishment of some sort, milk, beef-tea, or yolk of egg every hour.

I cannot give you a detailed account of the progress of the case from this time; but it will suffice to say that it was obvious that there was a very marked tendency to hyperpyrexia, which was only kept within moderate bounds by a constant attention to the iced applications. If for half an hour or more, as occasionally happened when the patient was asleep, their use were intermitted, or when an endeavour was made to do without them, the temperature very shortly ran up to 104 deg., or even, on one or two occasions, to 105 deg.; but, by the assiduous use of the cold towels, it was again speedily reduced to 102 deg., or even less, having occasionally fallen as low as 101.4 deg., but for a short time only. By the means we had hitherto used, the cold was applied to the front of the body only. We now adopted a method of applying it to the back, with no moving of the patient, and with little fatigue to the nurses. I had two India-rubber tubes fixed to the opposite corners of a water-bed, on which the patient was laid without any clothing, and covered with the iced towels. From the lower of these tubes every hour or so several gallons of water were allowed to flow out, while an equivalent quantity of iced water was pumped in at the opposite end by a large garden-pump.

This answered admirably, and gave little trouble. The cold applications were begun, as I have told you, on the 9th of August, and they were continued night and day, without any intermission, except for a short time now and again, when a rapid increase of temperature immediately necessitated their re-application until August 18th, that is eleven days. During the whole of this time the patient's condition was critical in the extreme. The temperature was taken in the mouth every quarter of an hour, except during the intervals of sleep; and even under the constant refrigeration it never fell below 101 deg., except for three hours on the morning of the 16th, when it was 99.5 deg., whilst at times it was 105 deg. The pulse all this time was excessively small and feeble, ranging from 130 to 150 per minute. The other symptoms were, on the whole, good. The tongue was moist; the abdomen only moderately tympanitic: there was slight diarrhœa for three or four days, but never in excess; the intellect was clear; the urine possessed a slight cloud of albumen; there was no local complication. Until August 15th, the tenth day of the illness, the temperature-chart showed a nearly uniform line with occasional short rises. On that day, however, and on each subsequent day, there was a distinct remission in the morning, when the temperature reached its lowest point, and the pulse improved; the temperature beginning to rise again at 1 P. M., reaching 104 deg. or 105 deg. by 3 P. M., and the pulse becoming extremely rapid and feeble. On the afternoon of August 16th, 17th, and 18th, the patient was almost moribund; and I left her on each successive visit with little hope of finding her alive on my return. Indeed, on the 18th, I thought she could not possibly have lived many minutes. The pulse at the wrist could not be made out at all; and, on auscultation, only a feeble flutter, quite impossible to count, could be heard over the heart. At those times the amount of stimulant was largely increased; as much as twenty-eight ounces of brandy having been given during the twenty-four hours on those three days. All this time the cold applications were continued; and, although I am quite convinced that they kept the temperature within limits which were compatible with existence, and so gave the disease a chance of wearing itself out, they did not seem, either to Dr. Fox or myself, to do more than this, and had in no sense a curative effect.

You will remember that large doses of quinine and also of salicylic acid had been given, with no distinct antipyretic effect, and had been discontinued. Being struck with the marked remittent type the fever had now assumed, I determined to try the effect of a remedy of high repute in India in the worst class of malarious remittent fevers, and the almost marvellous effects of which in such cases I had myself witnessed many years ago when in India. This is the so-called Warburg's tincture, a drug which, as being a patent medicine, was for long in disfavour, but the remarkable properties of which had been testified to by many high authorities, among whom I may mention Dr. Maclean, of Netley, and Dr. Broadbent, and which Sir Alexander Armstrong, the Director-General of the Medical Department of the Navy, informs me is now supplied to all Her Majesty's ships in the tropics, because it is found to be of the utmost value in cases in which quinine has little or no effect. Recently the composition of the tincture has been made public by Dr. Maclean. Its basis is quinine, in combination with a large number of vegetable aromatics and bitters, and the recipe reads like a farrago of nonsense. Probably there is some ingredient in it which intensifies the action of the quinine. Be this as it may, the testimony in favour of the efficacy of the drug as an antipyretic is very strong, and I determined to try its influence on my patient, since her condition was so bad that nothing could make it worse, and all other remedies had proved useless. The effect was very much more marked than I had ventured to hope. A full dose of the tincture was given at 3.30 P. M. on August

19th, the pulse being then 140; temperature 104 deg.; and was repeated at 6 P. M. A very profuse perspiration shortly broke out, until the patient was literally bathed in sweat (this being the almost invariable effect of the remedy), and she described herself as feeling immensely relieved. The cold applications were now removed, and the patient fell into a quiet sleep. At 9.30 P. M. the pulse was 110, but much fuller and stronger than it had been for many days. Temperature 102 deg. A single drachm of the tincture was given at 3 A. M., and ordered to be repeated every six hours. Next morning, at 8.30 A. M., I found her condition totally altered. The temperature was 99 deg.; pulse 96, full and strong; and from this moment the patient may be said to have been convalescent. The temperature never rose again, except between 3 and 7 P. M. on the afternoon of the 20th, when it suddenly ran up to 102 deg. A dose of the tincture, which had been discontinued, was now given, and repeated at 2 A. M.; and next morning the temperature was normal, and remained so.

The history of this terrible illness is now practically over. For many weeks the patient remained very weak and feeble, and there came on some indefinite swelling and pain about the joints; the skin of her hands, and here and there in other parts of the body, peeled, a fact on the significance of which I shall presently comment; but eventually she completely regained her usual health.

Let me now, as briefly as possible, point out to you some of the lessons we may gather from this history, already, I fear, too tedious and long, of the most remarkable recovery that it has ever been my fortune to witness.

1. Can we say anything as to the *cause* of the illness? The first question the medical man is bound to ask himself, in the face of such a case, is: whether it is possible that the septic matter can have been conveyed to the patient? Unhappily, the evidence of the possibility of this is too strong to render it a matter of doubt that this may happen; and all who see much midwifery practice could, were they honestly to review their experience, record such cases. Fortunately, in this instance, nothing of the kind was in the least likely; since no one in contact with the patient had, so far as could be ascertained, recently been near a case from which the contagium could have been derived. There is, of course, the possibility that it might have been autogenetic; but I do not think it probable, since the symptoms began too soon after delivery to admit of the supposition that it arose from decomposing matter in the genital tract. There remains the possibility of the patient having herself been exposed to the contagium of some zymotic disease, such as scarlet fever, before labour. Now, I cannot enter here, as I have done elsewhere, into a discussion of the *quæstio vexata* as to whether a disease, indistinguishable from puerperal fever, may be derived from the poison of zymotic disease, which shows none of the characteristic phenomena of the disease which originated it. I am aware that many high authorities totally disbelieve that this can be the case, and contend that zymotic diseases in the puerperal woman always run their usual course, and show their characteristic phenomena. That they often do so is quite beyond doubt. I have repeatedly seen lying-in women, who have been attacked with distinct and well-marked scarlet fever or measles, within a few days after labour, in whom the disease has run its usual course, and has not apparently been in any way intensified by the puerperal state. On the other hand, I am equally certain that I have seen many cases of puerperal fever showing no traces whatever of the ordinary symptoms of zymotic diseases, the origin of which was undoubtedly traceable to the poison of scarlet fever, erysipelas, or diphtheria. I am quite unable to suggest to you any satisfactory explanation of this curious fact; but I believe it to be proved to demonstration, and no one can, I think, impartially study the literature of the subject—as, for example, the interesting paper of Dr. Braxton Hicks, in the twelfth vol-

ume of the *Obstetrical Transactions*—without being compelled to admit it. It is to be hoped, as our knowledge increases, that some light may be thrown on the subject. In the meantime, I firmly believe that the denial of the facts, because we cannot explain them, can have no other effect than that of rendering the practitioner careless in his dealings with zymotic disease in relation to puerperal patients, and thus leading to the most disastrous results. Now, the channels through which such a poison as that of scarlet fever may come into contact with a patient are numberless, especially in large towns, where the first cab the patient may enter, or some casual contact in the streets, may convey the contagion. There was in this case a well-marked eruption, very analogous to that of scarlet fever; but such rashes are common in septicæmia, quite independently of the origin of the disease. The fact, however, that, subsequently to recovery, there was distinct desquamation about the fingers, and, to a less extent, in other parts of the body, make me think it likely that the scarlatinal poison was the origin of the illness.

2. As to the *treatment*. I believe that this may be summed up in the aphorism, that we have to use our utmost endeavours to keep the patient alive until the intensity of the disease has worn itself out; but, I fear, we must admit that we know of no reliable means of cutting short, or materially influencing, the progress of the septic disturbance, when once it has been fairly set in progress. Beyond any doubt, continuous elevation of temperature, such as existed in this case to so marked a degree, is one of the chief sources of danger, and much of our management of the case must lie in the direction of lessening pyrexia. In cases of moderate intensity, antipyretics—such as quinine in sufficiently large doses, of not less than twenty grains, salicylic acid, or the ice-cap—will probably be quite sufficient; and I certainly should not be disposed to recommend so troublesome and irksome a treatment as the external application of cold, unless there were marked hyperpyrexia. I cannot, however, doubt that in this case refrigeration saved the patient's life; for, without it, she certainly could not have tided over eleven days of fever with the temperature at 104 deg. and 105 deg., and tending to increase. My experience of this treatment is limited to two other cases. One was the wife of a medical man, whom I saw in consultation with Dr. Cleveland, of St. John's Wood. In this we did not think of using the cold until the temperature was 107 deg., and the case was almost hopeless, and then only in the modified form of the ice-cap, and unhappily without any good results. In the other, which I saw in consultation with Dr. Protheroe Smith and Dr. Simpson, of Highgate, we used the ice-pack night and morning for several days. Unfortunately, this patient was the subject of chronic albuminuria; and the case, which ended fatally, could hardly be considered a fair test of the remedy. My belief is, however, that where there are no well-marked local complications, and where the temperature is above 104 deg. or 105 deg., and tending to rise to a still higher level, the pack should certainly be tried; and in the modified form in which it was used here, it may be applied readily enough, while the lifting of a puerperal patient into a bath would be almost impossible.

You will have observed the marked beneficial results which followed the administration of Warburg's tincture. It would, of course, be absurd to draw too strong an inference from one case; but, at least, my experience of it would strongly incline me to try it again as an antipyretic of promising character.

By the careful feeding of your patient with milk, beef-tea, and eggs, administered at frequent intervals, you will materially husband her strength for the storm she has to pass through, and you cannot pay too much attention to this part of the management of this disease. With regard to stimulants, I am inclined to think that they are often given in such cases to an injudicious and needless extent.

As long as the pulse is fairly strong, and no indication of excessive prostration exists, I believe it is better to administer them in strict moderation. But the time may come, as it did in this instance, when the prostration is so great that the only chance of keeping the patient alive is in profuse stimulation. My advice with regard to stimulants would be not to order them indiscriminately, or in fixed quantities, but in strict accordance with the exigencies of the case, varying the amount from hour to hour, as the state of the patient may require.

One point of local treatment should never be omitted, especially in the early days of the illness, that is, the thorough washing out of the uterine cavity, night and morning, with antiseptic lotions, such as Condy's fluid and water, tincture of iodine and water, or a weak solution of carbolic acid. In many cases of autogenetic origin, in which decomposing matters exist *in utero*, this alone will suffice to remove the source of mischief, and cut short the progress of the disease. I must warn you, however, that such injections to be of value must be applied thoroughly, and into the uterine cavity itself; and it is quite useless to entrust them, as I have often seen done, to the nurse.

3. I can only briefly refer, in conclusion, to a subject which every conscientious practitioner must very anxiously consider, when he is so unfortunate as to have under his charge such a case, and that is: What are his duties to his other patients? The practical difficulty of giving up attendance on other midwifery cases is so great that one cannot be astonished at practitioners inclining to underestimate the weight of the evidence which shows the possibility of the contagion being conveyed from patient to patient. Indeed, I believe that, in these days of antiseptics, the thorough disinfection of the hands can be so efficiently carried out that danger from this source can be reduced to a minimum. The principal risk is in refusing to admit the danger, and neglecting the necessary precautions; and it is the man who wilfully shuts his eyes to the facts, and does not employ the means of disinfection at our disposal, who is most likely to be the unhappy medium of carrying infection. If, then, we see such a patient once in a way, carefully wash our hands in some antiseptic lotion, and avoid touching her with the right hand or keep on a glove while in her room, there is no reason why we should not continue our obstetric practice, and to insist upon more would be practically to debar us from following our profession at all. But, if we are in constant and frequent attendance on such a case as that we have been considering, visiting our patient four or five times every day, and, above all, if we are compelled to use intra-uterine injections, I believe it to be quite impossible to attend other cases without such a degree of risk that no conscientious man can venture to subject his patients to it; and, be the sacrifice what it may, it will be our bounden duty to avoid, for the time, the actual attendance on lying-in women.

—

Duration of Pregnancy.

Dr. A. STADFELDT, of Copenhagen (*Nordisk Med. Archiv*), has determined in thirty-four cases, where the date of coition was positively known, the duration of pregnancy. He has added to these thirty-four cases, thirty-one similar ones from M. Ranvin. The mean duration in these sixty-five cases was 271.8 days, the extremes being 250 and 293 days. The duration of pregnancy in the physiological sense should, according to the author, be calculated from after the epoch of the first menstrual suppression, modern physiologists holding that the fecundated ovum is derived from this ovulation period. Pregnancy would then be much shorter than is generally supposed. In twenty-four cases, where he believed he could determine the first epoch of menstrual suppression, the mean term was 254 days, the extremes being 240 and 273 days.—*Amer. Practitioner*, Dec., 1877.

CONTENTS.

Anatomy and Physiology.

The Motor Centres for the Limbs . . . 3
Physical and Pathological Excretion of Indican. By Prof. Jaffe 5
Pneumogastric Nerves. By Profs. F. Lussana and F. Ciotto 6

Materia Medica and Therapeutics.

Calabarin. By Mr. Abraham . . . 7
Detection of Iodine. By M. Filhol . . 7
Antifermentative Action of Boracic Acid and its Application in Therapeutics. By Prof. Polli 7
Subcutaneous Injection of Defibrinated Blood. By Dr. Schmeltz 9

Medicine.

Recent Researches on Idiopathic (Essential or Pernicious) Anæmia of Addison . 10
Salicin and Salicylic Acid in Rheumatism . 15
Syphilitic Cerebral Arteritis. By Mr. Lancereaux 18
Hysterical Anæsthesia—Injury to Spinal Cord—Cerebro-Spinal Lateral Sclerosis. By Dr. Cayley 18
Subcutaneous Injection of Ergotin in Neuralgia. By Dr. S. S. Marino . . . 20
Cysts of the Epiglottis By Dr. Beschorner 21
Ulcerative Endocarditis. By Dr. William Cayley 21
Gonorrhœal Rheumatism of the Heart. By M. Desnos 23
Systolic Retraction of the Intercostal Spaces. By Dr. O. Von Widmann 23
Vertigo a Stomacho Læso. By Dr. Berger . 24
Gonorrhœal Peritonitis. By Dr. Faucon . 24
Gall-Stones and Atheromatous Degeneration of the Arteries. By Dr. Benecke . 25
Case of Rupture of the Gall-Bladder. By Eichhorst 25
Case of Afiuria lasting Twenty-five Days; Recovery. By William Whitelaw . . 26
Peritonism and its Rational Treatment. By Prof. Gubler 27
Effects of Irritation of the Skin in Syphilitic Persons. By Tarnowsky 28
Partial Baldness. By Dr. P. Michelson . 29
Ova Oxyuris Vermicularis on the Human Skin. By Michelson 30

Surgery.

On the Treatment of Hemorrhage. By M. Crèquy 30
Artificial Anæmia as a mode of Treatment for Diseases of the Limbs. By D. Bernhard Cohn 31
On Sudden Death after Severe Burns. By Prof. Ponfick 31
Cases of Branchial Fistulæ of the External Ears. By Sir James Paget . . . 32
On a Hypogastric Urinary Fistula treated Successfully by Actual Cautery. By Dr Pallotti 34
Unilateral Gunshot Injury to the Spinal Cord. By Dr. Gowers 34
Lesions of Bone in Hereditary Syphilis. By Prof. Parrot 36
Syphilitic Dactylitis. By R. Gallazzi . . 38
Subperiosteal Amputation. By Dr. R. Schneider 38
The Indications for Drainage of the Knee-joint. By Dr. J. Scriba 39

Midwifery and Gynæcology.

Employment of Anæsthetics in Labour. By M. Piachaud 40
Spontaneous Delivery in Contracted Pelvis By Dr. Wierrer 41
Case of Puerperal Septicæmia, with Hyperpyrexia, treated by the continuous Application of Cold. By Dr. W. S. Playfair . 41
Duration of Pregnancy. By Dr. A. Stadfeldt 47

Published Monthly, price $2.50 *per annum, free of postage.*

Also, furnished together with the AMERICAN JOURNAL OF THE MEDICAL SCIENCES *and the* MEDICAL NEWS AND LIBRARY *for* SIX DOLLARS *per annum in advance, the whole free of postage.*

HENRY C. LEA, Philadelphia.

THE MONTHLY ABSTRACT
OF
MEDICAL SCIENCE.

VOL. V. No. 2. **For List of Contents see last page.** FEBRUARY, 1878.

Anatomy and Physiology.

The Structure of Tactile Corpuscles.

M. RANVIER has lately presented to the Académie de Médecine a note upon the termination of the nerves in tactile corpuscles. It has hitherto been believed that the nerves enter the terminal cells and present swellings at their entrance, and that touch acts directly on these cells. M. Ranvier believes that this termination is not real. By staining the ultimate nervous ramifications black by means of certain salts of gold, he has observed the nerve filaments to end between two cells, and not to penetrate the cells. There is no continuity between the cells and the nerves. The office of the cells is simply that of protection of the nerves or of intensification of the tactile vibrations. This is a subject for further study. The observations have been made on the tactile corpuscles of the duck's beak.—*Lancet*, Dec. 29, 1877.

—

On a Case of Inversion of the Heart.

In the *Giornale Veneto di Scienze Mediche* for July, Dr. LUIGI PAGANUZZI publishes a case in which the position of the heart was reversed. The anomaly was found in the body of an individual who had died of cancer of the œsophagus. The heart was of normal form, but the right compartment occupied the position of the left. The aorta had its origin from the right ventricle, the pulmonary artery from the left; the four pulmonary veins opened into the right auricle, and the two venæ cavæ into the left. The right (aortic) ventricle was about twelve millimetres (nearly half an inch) in thickness, the left was only half as thick. The mitral valve was on the right, the tricuspid on the left; in fine, all the special arrangements of the muscular papillæ, of the auriculo-ventricular orifices, of the openings of the veins into the auricles, and of the valves, were completely reversed. Dr. Paganuzzi remarks that the inversion could not have been more complete. The individual was an adult, and had never suffered from any inconvenience which could lead to a suspicion of the malformation.—*London Med. Record*, Dec. 15, 1877.

Materia Medica and Therapeutics.

On the Absorption of Carbolic Acid and its Recognition in Organic Liquids.

Dr. IGNAZIO TORTORA has published in *Il Morgagni* for January (abstract in *Annali Universali di Medicina*, August) an account of some observations made by him under the direction of Professor Cantani, regarding the absorption and elimination of carbolic acid.

The method which he adopted was the following. Urine containing carbolic acid was heated and treated with nitric acid; the fluid was then slowly evaporated to dryness; the yellow residue was dissolved in rectified alcohol, which took up the carbolic acid, leaving the mineral constituents of the urine. The solution was then filtered, the carbolic acid passing through and giving a yellow colour to the filtrate. The solution, when treated with carbonate of potash, gave a dark red precipitate of picrate (carbolate) of potash.

Operating in this way, and using similar quantities of urine, alcohol, and nitric acid respectively, he always found carbolic acid in the urine after its administration.

He gives the details of the observations in the case of a patient to whom, at 9.30 A. M., he began to administer, every fifteen minutes, 30 grammes (about an ounce) of the following mixture: crystallized carbolic acid, 3 grammes; rectified alcohol, 10 grammes; water, 300 grammes; orange syrup, 30 grammes. After each dose the mouth was washed out with water, which was swallowed. The following results were obtained by examination of the urine several times during the day.

1. At 11.30 A. M. some rather pale urine was found; quantity, 340 cubic centimetres. Of this, 20 cubic centimetres were treated with ten drops of pure nitric acid, evaporated slowly to dryness, and the residue dissolved in 10 cubic centimetres of rectified alcohol and filtered. The resulting liquid had a red colour.

2. At 1 P. M. 300 cubic centimetres of greenish-brown urine were passed, of which 20 cubic centimetres were treated in the manner described above. In this urine, when scarcely warm, as indeed is the case whenever a certain quantity of carbolic acid is present, a yellow ring was formed; this may be regarded as a sure sign of the presence of carbolic acid. The filtered liquid had a more distinct red colour.

3. At 4.30 P. M. the quantity of urine was 100 cubic centimetres, colour greenish-brown. The yellow ring was present; and, after treatment, as before, the solution was still more coloured.

4. At 6.45 P. M. 110 cubic centimetres, of the same colour as before, were passed. The alcoholic solution had a strong red colour.

5. At 3.30 A. M., on the next day, the quantity of urine was 300 cubic centimetres, and the colour normal. The circle formed in the capsule was of a faint yellow colour. The alcoholic solution was less coloured, almost resembling that of No. 2.

6. At 5.30 A. M. 90 cubic centimetres of pale yellow urine were passed, of which 20 cubic centimetres were treated as in the other experiments. No yellow ring was formed. The alcoholic solution was very pale, and hence was believed to contain only traces of carbolic acid.

7. No indication of the presence of carbolic acid could be detected in the urine passed at 8 A. M.

At 12.45 (45 minutes after the last dose had been taken) the patient began to discharge saliva, which was collected up to 11 P. M., and treated in the same manner as the urine. It yielded an intensely red solution, and picrate of potash was formed on adding carbonate.

In order to determine whether carbolic acid was absorbed in other ways than when given internally, Tortora applied a large blister to the arm, and dressed the vesicated surface with carbolized water. The saliva collected for twenty-four hours, and the urine, when treated in the way above described, gave indications of the presence of carbolic acid.

From his experiments the author believes that he may conclude that carbolic

acid is absorbed from the alimentary mucous membrane, or from the skin deprived of epidermis, or from wounds; and that, at least in great part, it is eliminated unchanged in the natural excretions, the elimination taking place rather rapidly, and being completed within ten or twelve hours. For internal use, the dose may be as high as 30 grains, but care must be taken that it is quite pure, and it should be given in an abundance of water.—*London Med. Record*, Nov. 15, 1877.

—

On the Elimination of Mercury.

Dr. E. W. HAMBURGER, of Franzensbad, sums up a paper in the *Prager Medicin. Wochenschrift*, 1877, with the following conclusions. 1. Mercury can be distinctly found in the urine of patients who have been treated with mercurial suppositories for some time. In one case in which the treatment had been commenced four days previously, mercury was not found in the urine. Mercury is always present in the urine of patients who have been treated by inunction.

2. In patients treated by suppositories, mercury was always found in the milk as well as the urine. In cases of inunction, although mercury was present in the urine, none could be found in the milk; and, when mercurial inunction was substituted for suppositories, the mercury disappeared from the milk, although it continued to be present in the urine.

3. The feces of a patient, who was treated by inunction, contained a large amount of mercury. Dr. Hamburger concludes hence that the elimination of mercury takes place chiefly by the bile.

The chemical process used consisted in the removal of organic matters, the application of electrolysis, and the formation of iodide of mercury, the crystals of which were readily recognizable under the microscope.—*London Med. Record*, Dec. 15, 1877.

—

Subcutaneous Injections of Chloroform.

In a note addressed to the Société de Thérapeutique (*Gaz. des Hôp.*, Dec. 14), M. E. BESNIER details the results of numerous trials which he has made at the St. Louis, of the hypodermic injection of chloroform, first practised by Dr. Roberts Bartholow in 1874. There has been, he observed, but little published upon the subject, probably because these injections have been used only for a limited purpose (the treatment of neuralgia), instead of employing them for the relief of every kind of pain. Their great advantage, he considers, consists in the fact that they may be employed in this manner, and thus supersede morphia with its consequent inconveniences. No ill effect whatever, local or general, follows these injections, and yet they are efficacious. But the mode in which they are made is of importance, for, inefficiently performed (which is very commonly the case), they may give rise to local phlegmasia. They should always be practised in two stages, the needle being first separated and introduced alone, so that if it happen to penetrate a vein this may be made known by the issue of a droplet of blood. When the syringe has been reapplied, in order to prevent local irritation being caused, the injection should be propelled *into* the hypodermis (*i. e.*, the subcutaneous cellulo-adipose layer, which varies in thickness in different regions and individuals), which not only possesses a special tolerance and insensibility, but a very active absorbent power. If the point of the needle be very fine and sharp, it may be passed through the skin into this tissue without appreciable pain, which, however will be felt if it be carried too far, so as to reach the muscles, etc. The needle is manœuvred with the greatest facility as soon as it has passed the dermis, its point being easily guided to any part of the hypoderm. This done, the syringe may be adapted, and the injection made with the greatest security.—*Med. Times and Gaz.*, Dec. 22, 1877.

The Effect of Alkalies.

What is the effect of large doses of alkalies on the economy? Can they produce a cachectic state? Mialhe, of Paris, has lately given a negative answer to the question, and concluded his observations on the subject with some instructive remarks on the influence of alkalies. He believes that the effect of bicarbonate of soda is to modify the intimate composition of albuminous bodies with which the alkali enters into combination, and, in consequence, to increase the activity of the phenomena of oxidation, or of vital action, such as endosmosis, and exosmosis, and to modify the excretions. To attain this result the quantity of alkali needed in different cases varies. The proportion of soda in the system, whether as carbonate or as albuminate, is not always the same. A man who lives in a town, and eats much nitrogenous food, needs a larger dose of alkali, in order to bring the system into the same condition, than the peasant who eats chiefly bread and vegetables. A loss of acid probably occurs during free perspiration, and hence the condition of the skin should be taken into consideration, for a person who perspires much needs less akali than one who does not. The greater the amount of exercise the smaller is the amount of soda needed. Lastly, the higher the temperature the less alkali can be borne, perhaps because the temperature itself has an influence similar to that of forced exercise, and partly on account of its action on the nervous system. It is well to commence the treatment with the full quantity, which will be needed in divided doses. M. Gubler subsequently announced his concurrence with M. Mialhe in the need for and utility of large doses of alkali, but differed as to the possibility of doing harm by extreme doses. It must not, he urged, be supposed that because a substance is a necessary constituent of the body it cannot be prejudicial if given in large quantities. Oxygen, for instance, introduced into the lungs in too large quantities is a poison, and, although in some cases a quarter of a pound of bicarbonate of soda may be taken daily without inconvenience, it is certain that a distinct alkaline cachexia is sometimes to be observed, and is especially likely to occur where there is renal disease.—*Lancet*, Dec. 22, 1877.

Employment of Pilocarpin in Childhood.

Prof. DEMME, of Bern, states (*Petersburg Med. Woch.*, Nov. 17) that he has employed the muriate of pilocarpin by the subcutaneous method, using a 2 per cent. solution in 33 children from the ages of nine months to twelve years. Of these, 18 suffered from desquamative nephritis and dropsy consequent on scarlatina, 3 from diphtheria without scarlatina, but with consecutive parenchymatous nephritis and a high degree of dropsy. Of the other 12 cases, 2 had dropsical effusion from heart disease, and 3 rheumatism affecting several joints. As a general rule, only one injection per diem was employed, and in children between the ninth month and the second year the dose of pilocarpin employed was gramme 0.005; between the second and sixth years from 0.0072 to 0.01; and from the seventh to the twelfth years 0.01 to 0.025. The general conclusions drawn from these cases are, that pilocarpin exhibits its sialogogic and diaphoretic properties in a very marked manner in childhood, and that it is very well borne at the tenderest age in the above doses, its sialogogic effect being more prominent in the younger, and its diaphoretic effect in the older children; that any unfavourable after-effects, even in the youngest children, were quite exceptionable, and were preventable by administering minute doses of brandy prior to the injection; and that no influence on the action of the heart was perceptible. The cases best adapted for its employment are desquamative parenchymatous nephritis with dropsy, following scarlatina, diphtheria, etc. A beneficial diuresis in most of the cases

ensues, the quantity of albumen which the urine contains never being increased, but rather diminished.—*Med. Times and Gaz.*, Dec. 8, 1877.

Continuous Baths.

To the *Wiener Med. Wochenschrift* (September 8 to 29), Privat Docent Dr. HANS HEBRA contributes a paper reporting the results of the employment of continuous baths first proposed by his father, Prof. Hebra, fifteen years since. An old prejudice against prolonged continuance in a bath, and its employment just after meal times or during menstruation, had to be overcome. In order, too, that a man should remain for days, weeks, or months in a warm bath, the ordinary bath will not suffice, and a special apparatus has to be devised. Almost all baths are too short to admit of the patient's lying down, and they are too deep, so that the vapour of the water, which gets commingled with the air, interferes with respiration. The new apparatus (which was exhibited in London in 1862) allows of the patient's lying comfortably in the horizontal position, and so high as to be but little inconvenienced by the vapour. For its description we must refer to the paper itself, and content ourselves with stating the results of its employment. In such a "water bed" as this people find themselves quite comfortable, and, when once accustomed to it, can sleep as well in it as in an ordinary bed. The appetite, fecal and urinary evacuations, remain normal, the respiration is not hurried, and the debility usually attributed to prolonged baths is not observable. During the first four or five days the whole surface, with the exception of a slight rising of the epidermis of the fingers and toes, undergoes no perceptible change. After that time there occurs in almost all, especially those who have much swelling of the feet, sharp pains in the plantar surface, which last for some days. For the alleviation of this suffering it suffices for the patient either to have placed under the soles of the feet a firm horse-hair pillow, against which he can press, or, if this is not enough, to have cushions placed under his feet, so as to keep them for some hours above the water. In individuals with a delicate skin there are frequently produced, after they have been in the water a week or two, large broad patches of artificial papulary eczema, which are accompanied by great itching. Frictions with *oleum rusci*, while still remaining in the water, are always sufficient to cause the disappearance of this eruption. With the exception of this local result of the irritating effect of the water, no bad consequences have been observed. Among the many women for whom the bath has been employed, none were removed from it during the menstrual period, the water being found, indeed, to assuage their suffering. In no one of them did any disturbance of the functions of the sexual organs arise.

Since 1862 more than 500 persons have been treated by these continuous tepid baths, so that a very strong opinion may be expressed as to their harmlessness. Of the early cases in which they were employed, sufficient notes were not taken to state the proportion of recoveries; but during his period of service as clinical assistant, Dr. Hebra had 200 of these patients under his care, and is able to speak strongly in favour of the procedure. At the Vienna General Hospital a special place is devoted to this treatment, in which are set up seven of the apparatus, and the results of its employment are stated in the reports of that institution. Burns in the third degree—a very fatal injury—constituted 127 of the 203 cases treated, and of these 56 (44 per cent.) recovered. Among the other cases there were numerous examples of pemphigus and gangrenous bubo.—*Med. Times and Gaz.*, Dec. 8, 1877.

On the Vermifuge Action of Pumpkin-seeds.

In a letter published in *Il Raccoglitore*, Nov. 6 and 7, 1877, FEDELI relates the following case, to illustrate the efficacy of the seeds of cucurbitaceæ in tapeworm. A boy aged 7 had been affected with tænia during four years, and had become much debilitated by the numerous medicines administered to him. It was at last determined to stop all internal treatment, and to send him, during the summer and autumn, to the Tusculan Hills. While he was there, his parents observed that, whenever he ate boiled pumpkins, he voided numerous joints of tænia, and appeared more lively. Acting on the suggestion conveyed in this observation, they gave him, for two mornings, while fasting, the seeds simply decorticated; and, on the second morning, had the satisfaction of seeing him expel several long pieces of tapeworm. From this day he recovered his appetite, his nutrition improved, and he had no further illness.—*London Med. Record*, Nov. 15, 1877.

—

Mixed Narcosis.

About three weeks ago THIERSCH operated three times for malignant disease affecting the bones of the face. In each case he removed the bones chiefly implicated, and as much of the surrounding and deeper-lying structures as was necessary or possible.

In the first case, in which the inferior maxilla was affected, he excised half the bone and also a considerable amount of the skin around the growth, which had perforated the cheek, and had a very characteristic malignant ulcerative appearance. In consequence of the free removal of skin it was impossible to completely close the wound. The patient got intense glossitis, which prevented deglutition. The glossitis, however, greatly diminished, but the patient continued to sink, and became extremely anæmic. There was slight recurrent hæmorrhage, and on November 26th the common carotid was tied, and shortly afterwards transfusion of blood to the extent of about 12 ozs. was performed, but the patient died on the table during the operation.

In the second case, the superior maxilla was removed with a very large growth, and the structures beneath freely cleaned. The whole of the skin incisions united by first intention, and the cavity filled up well and healthily. He was shown in Klinik on Nov. 23d, nearly well. The cavity was almost completely filled up, and at a short distance the line of incisions could not be distinguished. The general health good.

In the third and last case the superior maxilla was removed. The patient, however, died a few hours after the operation, and at the autopsy the disease was found to have perforated the upper wall of the left orbit, and attacked the dura mater.

The cases in themselves were instructive, but a more interesting feature lay in the steps preceding the operations. Anæsthesia was obtained by the newest German plan—that of the "mixed narcosis" (Gemischte narkose),—the discovery of which is ascribed to Prof. Nussbaum, of Munich. It consists in the subcutaneous injection of morphia when the patient is brought in for operation, and then the administration of chloroform. This, by the by, is administered here somewhat differently from the English method. Air is pumped, by means of a hand-bag, through a bottle of chloroform (hooked on to the breast of the administrator's coat), into an inhaler which fits tightly over the nose and mouth of the patient. The dose of morphia is varied according to the age and strength of the patient. Half a grain of morphia is the maximum dose; the minimum hitherto used has been a quarter of a grain.

Chloroform is given directly after the injection, as above described. At the end of five minutes' inhalation the operation can usually begin, but the administration is kept up at intervals during the course of the operation.

The effects were very marked in the three cases just related, and in each they were perfect. The patient, in each operation, allowed the blood to collect at the back of his mouth till ordered to spit it out, and then did that at once and completely. Otherwise he kept perfectly still, and watched the movements of the surgeon and the bystanders with a half-stupid but evidently interested look; yet he evidently felt no pain from the action of the saw, the knife, or the scraper.

In operations about the face and jaws, where it is of importance that the blood should not trickle down the trachea, if the new mode of producing anæsthesia can be safely employed it will prove of great advantage. As to the results I am certain, but as to the safety I cannot yet speak. It has only been used here since last month—about five times, I believe; but so far there have been no bad symptoms following its use. There can, I think, be no doubt that mixed narcosis will cause insensibility to pain without abolishing all voluntary movements.—*Lancet*, Dec. 8, 1877.

[This modification of the anæsthetic process was described at least fourteen years ago. The reader is referred to an interesting paper on the subject by Dr. J. C. Reeve, of Dayton, Ohio, published in the *American Journal of the Medical Sciences*, April 1876, p. 374.—Ed.]

On the Venous Pulse produced by Chloroformization.

Dr. Noel bases his paper (*Bulletin de l'Académie Royale de Belgique*, 1876) on more than fifty cases. According to him the phenomenon exists in the majority of subjects without distinction of sex or age; it always appears at the same period of anæsthesia, that is to say, during the waking-up. In these conditions, the internal jugular veins, the subclavian veins, and, in rather more than half the cases, the external jugulars, sometimes even the facial veins, are the seat of pulsations isochronous with the radial pulse. These pulsations seem to the eye very distinct, but only give a slight impression to the touch. A double undulatory movement corresponds to each of these pulsations. The most marked repletion very closely precedes the radial pulse, and is immediately followed by a marked lowering. These pulsations, studied more specially in the external jugular, where the phenomenon is peculiarly significant, disappear after compression of the vein at the lower part of the neck; on the contrary, they persist when the vessel is compressed at the upper limit of the cervical region. They last about half an hour, gradually diminishing in intensity. During the whole of this time, palpation and auscultation of the heart, and examination of the respiration and the pulse, do not reveal any special modification. M. Noel afterwards points out that this phenomenon indicates a profound disturbance of the action of the heart: he therefore advises the surgeon to carefully watch the patient during the period of awakening.—*London Med. Record*, Nov. 15, 1877.

On the Mechanical Action of Baths of Compressed Air.

Dr. C. Forlanini has communicated to the Medico-Pneumatic Institute of Milan a preliminary article on this subject (*Gazetta Medica Italiana-Lombardi*, March 31, 1877.)

The action of compressed air on the organism is of two kinds—chemical and mechanical. The former consists in the increased absorption of oxygen by the lungs, the latter in the modification which the increase in the density of the air exerts on the mechanical act of respiration, and probably on the circulation of

the blood, and on the density and compactness of the tissues, which are immediately in contact with the air. Regarding the mechanical action, the author makes the following remarks.

1. It is admitted without dispute that, in the compressed air bath, the capacity of the lungs is increased in healthy subjects, by reason of the reduction of the volume of the intestinal gases, and the consequent descent of the abdominal wall and the diaphragm.

2. It is also admitted, without dispute, that the bath of compressed air produces this increase of the spirometric pressure in a still higher degree in the subjects of catarrhal bronchitis. This fact, the therapeutic importance of which cannot be overlooked, is explained by the deobstruent action which the compressed air exercises on the minute bronchial tubes, when blocked up by the bronchitic secretion, through the establishment of a greater pressure than that of the ordinary atmosphere. Waldenburg's apparatus has an identical action, but it is not possible to determine *à priori*, whether it or the compressed air-bath possesses the greater deobstruent power over the small bronchi. Numerous comparative experiments have convinced Dr. Forlanini that Waldenburg's apparatus is in this respect superior to the bath of compressed air.

3. For a long time it was assumed that the air-bath exercised an anæmiating and compressing action in the peripheric tissues; that, in consequence of the increased density of the air, the blood was pressed out of the tissues with which the air came into contact, and forced into the deep-seated vessels; and that the tissues, being compressed against the subjacent solid parts, became condensed. The hemorrhage and peripheric congestions observed in aeronauts; the opposite facts observed in divers and in drivers of bridge-piles, and in coal-miners; together with the uniform results of experiments; these are the proofs adduced in support of this theory. By it are explained in great measure the results obtained by the use of the air-bath in the treatment of inflammation and hyperæmia of the mucous membranes of the respiratory apparatus, Eustachian tube, etc.

This theory, the correctness of which has been recently impugned by Bert, Forlanini holds to be untenable. Microscopical examination of the circulation in the frog; observations on the vessels of the conjunctiva and retina; and especially experiments made with Professor Mosso's plethysmograph, have shown him that, under the use of the compressed air-bath, the calibre of the capillaries does not undergo change. He promises in a short time to give a detailed account of his experiments.—*London Med. Record*, Nov. 15, 1877.

Medicine.

The Pathology of Inflammation.

The most conspicuous opponent of Cohnheim's theory, that the origin of pus-cells is to be sought exclusively in the white corpuscles of the blood, is Professor Stricker, from whose laboratory there have come of late years a number of valuable contributions to pathological histology, bearing directly on this subject. The object of most of these papers has been to show that in an inflamed tissue there is a rapid formation of cells from those pre-existing in the part, in circumstances and under forms that exclude the possibility of the new cells being white blood-corpuscles. A recent memoir by Arnold Spina, Assistant in the Laboratory for

General and Experimental Pathology in Vienna, on "The Changes in the Cells in Inflamed Tendon" (*Wiener Medizin, Jahrbücher*, 1877), may be regarded as a continuation of the series of experimental studies on inflammation which have been inspired by the ideas of the Vienna school.

It is a misfortune that histologists are so little agreed as to the nature of the cellular elements of connective tissue, that the conclusions at which any observer arrives regarding the changes produced by inflammation must always be read in the light of the opinions he holds regarding the normal structure. This is not less the case with tendon than with other forms of the tissue. Herr Spina, therefore, very properly prefaces his memoir with a statement of his views on the histology of tendon. They are briefly as follows. Between the bundles of tendon there are interspersed rows of cells. The rows are spindle-shaped, the cells becoming narrower towards the ends of the spindle, until the cells disappear, the spindle being continued by fibres from each extremity. These rows become, as the animal gets older, changed into elastic bands. The cells of which these rows are composed are in young animals surrounded by a hyaline substance from which the elastic tissue is formed. The cells of tendon, further, have processes in the form of flattened bands and fibres, by which they are connected with each other.

Now what takes place in these elements when the tendon is inflamed? In the tendons of young animals, cauterized by caustic potash, cut out after twenty-four hours and coloured by chloride of gold, the cells were found enlarged, and their number increased; the cell-processes were found to be thicker and in greater number. Similar changes were found, even in a more striking manner, in the tendons of older animals; the presence of nodular swellings in the band-shaped processes of the cells being conspicuous. Now spindle-shaped rows of cells are formed, and it is inferred that they are the product of the nodular swellings in the processes of the older cells, these swellings being clumps of protoplasm (*Klumpen*), which by blending with each other form a new chain of cells. When the inflammation has lasted longer than forty-eight hours, the substance of which the bundles are formed gradually disappears, whilst the cells increase in number more and more until large layers and masses of cells are formed. After three or more days, the individual cells can no longer be distinguished, and the cell-groups have been succeeded by a coarsely or finely granular mass. This granular mass, when stained by hæmatoxylin, is seen to contain the nuclear elements which are peculiar to pus-corpuscles, and the mass itself is in reality a small abscess. When these cellular masses were teased out after two or three days' inflammation, an important change was found to have taken place in the spindle-shaped cell-rows described by Herr Spina in healthy tendon. These could now be isolated, and were found to be much longer than in the normal condition. Instead of being one cell broad, two and even more cells were now found side by side. The elastic bands developed from the cells had gone back into their histological elements, and become "pus-bands." At other times, according to Herr Spina, the cellular elements of these elastic bands developed red blood-corpuscles, colour being apparently the chief element taken into consideration in coming to this conclusion. These blood-like cells are also found at some parts in a breadth of several cells, contrasting again with the appearances seen in healthy tendon.

It would thus seem to be beyond doubt that, if we follow Herr Spina's methods of examining tendon, and possibly whatever method may be followed, we shall find in a very early stage of inflammation a greater number of cells than will be found in healthy tendon similarly treated. Is Herr Spina's conclusion that the healthy cells have multiplied under the stimulus of inflammation, therefore, justified? To answer this question it is necessary to consider an interesting point in

histological *technique*. The bundles of tendon being somewhat cylindrical in form and parallel to each other, necessarily leave at certain points between them, when they are cut transversely, angular gaps. It is in these gaps that the nuclei of the tendon-cells are seen, and it has been conclusively shown by Boll that the cells lie on the bundles. When a transverse section of tendon treated by gold-chloride is examined, these gaps are filled with a dark purple mass, which insinuates itself in angular projections between the bundles. Herr Spina, whose preparations were mostly obtained by the use of this reagent, believes that this angular and occasionally anastomosing deposit is the tendon-cell, an opinion that is irreconcilable with the results obtained by Boll and Ranvier. When an inflamed tendon has been treated with gold, this deposit between the bundles is increased in quantity, and the bundles are proportionately separated from each other. There are, further, an increased number of gold-stained lines traceable between and into the bundles. Histologists who do not agree with Spina's views regarding the nature of the tendon-cell, will not see with him in these changes any evidence of growth or multiplication of cells, but will regard them as evidences of distension of the spaces between the bundles by serous effusion. When, after a longer duration of the inflammatory process, the large spaces between the broken-down bundles are found occupied with pus-cells, an objector to Herr Spina's views would naturally ask why their source should not be sought in the bloodvessels that exist in the tissue between the groups of bundles. The important fact, however, remains, that an increased number of cells are actually found in the inflamed tissue, and it has not been shown that they are connected either with the gold network between the bundles or with emigrated white blood-corpuscles. In isolated cell-bands, several breadths of cells were found side by side. Neither from the description given by the author, nor from an examination of the plate which illustrates his memoir, does it seem probable that these were white corpuscles in a particular stage of development, and as little is there evidence that they proceeded from each other by any process of division or endogenous cell-formation. The demonstration of their existence will, we believe, be found to be an element of permanent value in Herr Spina's work; but, before pathologists can be expected to agree regarding their nature, the whole question of the histology of tendon must be re-examined from the foundation.—*British Med. Journal*, Dec. 15, 1877.

—

Use of Salicylates in the Treatment of Acute Rheumatism.

This subject has been under discussion in Paris, and some of the leading French physicians have expressed their opinions concerning the new agent. On the whole, the results confirm fully those which have been obtained in Germany and in Great Britain. The discussion of the subject was opened at the Académie de Médecine by M. GERMAIN SÉE in an elaborate review of the properties and action of salicylic acid and its salts, and an enthusiastic advocacy of its use in a considerable number of diseases. His experience of its use in rheumatism extended over fifty-two cases, of which, however, only nineteen were febrile. Twelve of the febrile cases had had previous attacks, varying in duration from three weeks to three months. In all, with but one exception, the attacks were cut short by the salicylate in three days. Neither the age of the patient, nor the previous duration of the disease, nor the extent of joint-affection, influenced the result. The only case of failure was one in which the acute rheumatism, beginning in four joints, remained localized to the wrist. He agreed with other observers that the first effect of the action of the salicylates is the cessation of the pains; this occurs in from twelve to eighteen hours; the joint swelling ceases in from one to three days, and motion is easy after the third day. The pyrexia, in

some cases as high as 105°, never disappeared before the cessation of the pain. Stricker, who first called attention to the beneficial effects of the treatment in rheumatic fever, asserted that cases of subacute rheumatism derived little benefit from the treatment, and his observation has received a certain amount of confirmation in this country. The experience of M. Sée does not, however, corroborate this. Out of thirty-three cases of subacute rheumatism he stated, there was not a case which was not cured in two or three days. M. Hérard confirmed fully the results obtained by M. Sée, and mentioned one case in which quinine in large doses had failed, but the salicylate treatment effected a rapid cure in two days. M. Hardy, while agreeing in the main with M. Sée, thought he had been a little too fortunate, and that fifty-two cures out of fifty-three cases was an "unnatural phenomenon in therapeutics," wisely pointing out that practitioners must not be disappointed if they obtain a less successful result. Other confirmatory opinions were expressed by MM. Oulmont, Gueneau de Mussy, Ferrand, Beaumetz, Desnos, Bouchardat, Jaccoud, and Lépine, all of whom had obtained, by the use of the salicylates, results which, if not quite so startling as those of M. Sée, were at least superior to those obtained by any other treatment. M. Jaccoud, however, thought that it had little power over chronic forms of rheumatism; and M. Lépine admitted that in some cases it appears to have no effect. Perhaps, however, the most valuable testimony to its use was contained in a report which had been obtained by the military medical authorities, relating to 181 cases of acute rheumatism, in only 7 of which the remedy had no effect, while in 110 of the cases, which were carefully followed, the patient was cured in 94 cases in from twenty-four to sixty hours.

The opinions expressed regarding the details of its administration and effect are of considerable interest. The quantity which M. Sée believes it is necessary to administer daily is two drachms and a half, to be taken in five doses. This corresponds to about a drachm and a half of salicylic acid. Gueneau de Mussy asserted, however, that equally good results were obtained if a smaller dose was first employed, and gradually increased up to one and a half or two drachms. Lépine, on the other hand, advocates larger doses, of two to three drachms of the salt of soda or ammonia. The large doses are, he believes, borne quite well, if given in divided doses—an opinion which is, on the whole, corroborated by the experience of English physicians. M. Sée, however, believed that some of the cases of sudden death during its administration, which have been recorded in Russia and Germany, were due to the depressing effect of the large doses employed.

It was admitted by M. Sée that relapses are more frequent on the salicylate than on any other method of treatment, but this he ascribed entirely to the too early discontinuance of the drug, an opinion which M. Hérard also expressed. The salicylate should be continued for ten or fifteen days, and there would be very few relapses. If a relapse did occur after the discontinuance of the treatment, it could be at once cut short by the resumption of the salicylate. In four cases in which the salicylate was purposely omitted early, the alternate occurrence and arrest of rheumatic affection were observed three times. According to M. Desnos, the rapidity of cure is the cause of the relapses in an accidental manner. Discomfort is so soon at an end that patients will get up, and move about, and expose themselves to cold, and so get a relapse.

Regarding the influence of the salicylate treatment on the complications of rheumatic fever, the conclusions of the French physicians agree with those of previous observers. M. Sée asserted that complications are far less frequent than under other methods of treatment, for the simple reason that the duration of the disease is so much shorter. The profound anæmia which so often succeeds

rheumatism is, in his experience, almost unknown on the salicylate treatment. Recent endocarditis is uninfluenced by it for good or evil, and in cases which came into the hospital during the first three days of the affection, there was not a single instance of either endocarditis or pericarditis. The experience of Lépine, Hérard, and other observers, agreed with that of M. Sée. M. Jaccoud pointed out that not only has it no apparent influence on the cardiac, pulmonary, or cerebral complications, but it does not prevent the fever which accompanies a visceral inflammation.

A strong opinion was expressed not only, as we have said, by M. Sée, but by others of the speakers, that some of the instances of sudden death under salicylate treatment were to be ascribed to the large doses employed. M. Empis mentioned such an instance of sudden death, but how far it could be ascribed to the salicylate seemed very doubtful. There is no doubt that the cases of M. Jaccoud, who employed rather large doses, present a remarkably high mortality. Out of sixteen cases treated exclusively by the salicylate method, three died, two from cerebral complications and one from acute alcoholism.

The theory advanced by M. Sée, in which Gueneau de Mussy agreed, to explain the mechanism of its action, is that the chief action is upon the nervous system, which plays a greater part in the production of the symptoms of rheumatism than is commonly supposed, and thus that the remedy cannot be regarded as a specific for the rheumatic poison.

The only speakers who opposed the use of the new remedy were, as might be expected, those who had never tried it. One of these was M. Bouillaud, who refused to believe that acute rheumatism could be cured in three days by anything except a miracle, and who advocated, and still employs, the treatment by bleeding. One or two physicians had met with far less favourable results than the average. M. Oulmont had obtained no distinct result in four out of seven cases, although the treatment was continued for more than a week. But M. Sée objected that the dose given, amounting to a drachm daily, was too small. M. Desnos, however, as well as M. Lépine, pointed out that there are some cases in which, even in very large doses, the salicylate does not appear to exercise any appreciable influence on the duration of the malady, although they are forms of considerable severity.—*Lancet*, Dec. 1, 1877.

—

The Use of Salicylates in Typhoid Fever.

The remarkable effect of salicylic acid and its salts in acute rheumatism has led to its employment in many other diseases, and the results obtained in some of these were described at the discussions which have taken place before the French societies, and to which we have directed attention. That a drug possessing such a remarkable power over the pyrexia and articular pain of one disease should exert an influence in other diseases, presenting one or both of these characteristics, is a natural expectation. It has not been wholly unrealized, although the extent to which it is useful in other diseases than acute rheumatism seems to have limits which are soon reached, and to be the subject of some discrepancy of opinion.

We remarked that M. Sée has found the salicylic treatment much more effective in subacute rheumatism than many other observers have asserted. He has also used it in chronic rheumatoid arthritis, and has found that it is very useful in the acute exacerbations of the disease. The pain is quickly removed, the swelling is soon lessened, and the muscular rigidity is diminished in a remarkable manner. To effect this, however, large doses are necessary. Gueneau de Mussy found it useful in one case of this affection, but of no service in another. The

same physician had found it entirely useless in sciatica, but in acute muscular rheumatism, lumbago, etc., M. Sée had obtained very good results, all pain and stiffness being removed in two days.

Gout is another disease in which salicylate of soda has been largely used. M. Sée found that the effect is speedy diminution in the pain of acute gout, and that even in chronic gout it is useful, and produces a gradual diminution in the swellings and nodosities. The opinion was corroborated by Gueneau de Mussy and Lépine. The latter had seen remarkable effects produced in a case of saturnine gout. In gonorrhœal rheumatism and in chorea it has been found useless. Given in full doses, it has considerable power of reducing the temperature in phthisis, but, as might be expected, without any corresponding amelioration in the symptoms. Indeed, its use is not wholly without danger, for it has appeared to induce serious gastro-intestinal troubles and cerebral symptoms.

Perhaps the most important practical question connected with the employment of salicylic acid, next to its use in acute rheumatism, is its effect in typhoid fever. There is much discrepancy in the results hitherto recorded. A favourable report was given by Dr. Gueneau de Mussy, who had used it in twenty-seven cases in small doses without having a single death. He only concluded from this that in small doses the drug does no harm in the disease. M. Sée believed, however, that it was of little service, and that doses which would have an antiseptic influence on the intestine would produce irritation; but he seems to have concluded this rather from theoretical considerations than practical experience. M. Lépine concurred in its inutility. M. Oulmont had found that of ten cases in which it was employed, marked defervescence was produced in eight, but the effect was not durable. This corroborates the conclusion of Goltdammer, who found that the duration of the disease was not diminished in any of the fifty-six cases he observed. An important series of facts have been published on this point by Schröder, of St. Petersburg. In a military hospital 160 cases of typhoid were treated with salicylates, chiefly with the soda salt. Of these thirty-one were fatal, the mortality being thus 19.4 per cent., the mortality of the preceding 211 cases treated by other methods having been 14.7 per cent. The causes of death in the salicylic cases were—in four, perforation; in five, pneumonia; and in the others parotitis, parotitis with œdema of the glottis, pleuro-pneumonia, and meningitis. The antifebrile action was unquestionable, but no favourable influence on the course of the disease could be observed. By small doses the pulse was rendered less frequent, but by large doses it was accelerated, and the continued use of large doses (three drachms a day) induced symptoms of collapse. Schröder concludes that the treatment is far inferior to that by cold baths. This is not, however, the opinion of Jahn, who has published a series of statistics of three years' treatment of typhoid on three different systems. In the first, thirty-nine cases were treated with large doses of quinine, the application of bladders of ice, and mild "water treatment." Nine patients died, six of them from the intensity of the disease. The average duration of treatment in the hospital was sixty-six days; complications were observed seven times, severe cerebral symptoms were present twenty-five times, and severe intestinal symptoms twenty-nine times, while bedsores were observed in nineteen cases. In the following year sixty-three cases were treated with quinine and an energetic "cold-bath treatment." The deaths were six, of which five were from the intensity of the disease. The average duration of treatment was fifty-three days, complications were observed in seven, severe cerebral symptoms in seven, severe intestinal symptoms in twenty-one, bedsores in seven. In the next year thirty-five cases were treated by salicylates; five grammes (about a drachm and a half) of salicylic acid were dissolved in water with an equal quantity of bicarbonate of soda,

and taken as a beverage. The deaths were three only; the average duration of treatment was thirty-seven days. Complications were observed twenty-four times, severe cerebral symptoms were present in no case, severe intestinal symptoms in one only, bedsores were observed in no case; the three deaths were all from double pneumonia. The contrast between the observations of Jahn and Schröder is so great as to make it probable that the epidemics differed very much in severity and character. It would seem, from the statistics, that in the last year of the epidemic observed by Jahn, the cases were of an exceptionally mild character, and his conclusions are therefore to be received with some reserve. He believes, however, that in large doses the drug acts not only as an antipyretic, but has a "healing" effect on the typhoid process; that the antipyretic effect is shown in the remission of the cerebral symptoms; that a direct effect is produced on the digestive organs—the gastric symptoms diminish, the appetite returns, the diarrhœa is moderated or arrested; that, as a result, the prostration is diminished, and the convalescence is abbreviated; that the soda salt is preferable to the acid, because it has the same curative influence, and possibly a more rapid effect, while it produces no irritation of the respiratory tract; that no concurrent effect of the salicylate was observed, except that the tendency to epistaxis appeared to be increased by its use; that relapses were not avoided by the use of the salicylate, and it is therefore well to continue to give it in smaller doses during convalescence. A case which was brought last session before the Clinical Society by Dr. Murchison is in such striking contrast to the second of Jahn's conclusions, that it ought not to be overlooked. The case appeared to be one favourable for testing the effect of salicylate, for the pyrexia was considerable, but was unattended by diarrhœa or delirium. The effect of the drug was to reduce the temperature as rapidly as in rheumatic fever, but when the drug was discontinued the pyrexia returned. While under the influence of the salicylate the patient had violent delirium, ceasing when the drug was omitted; there was also albuminuria, and almost total suppression of urine, both passing off as the effect of the drug ceased. It is clear, however, from the result of continental experience, that the dose of the salicylate was too large. Six drachms daily were given, three times the quantity employed by Jahn. Evidently, in typhoid the doses cannot be borne which do good in acute rheumatism, and hence a single case of poisoning by the drug, such as this, has no significance with respect to the possible beneficial effect of its employment in smaller doses.

In intermittent fever the action of the salicylate is marked, but is less than that of quinine. It has been carefully tried by Rosenstein in thirteen cases. In three cases only was there a complete cure; in six cases no effect could be observed; in four cases the influence of the drug was transient, so that the administration of quinine was necessary. The dose of salicylate employed varied from a minimum of one drachm to a maximum of four drachms daily.—*Lancet*, Dec. 8, 1877.

On a Case of Facial Hemiplegia.

In the *Prezglad lekarski*, No. 7, 1877 (quoted in *Allgemeine Med. Central-Zeitung*, October 23), Dr. LACHOWICZ relates the following case. A barber's assistant, aged 17, being tired with work, lay on the ground on a dry stone, and slept. The next day, he noticed that the right half of his face was fuller than the other, and that his mouth was drawn to one side. Three days later, the right side of his face was more swollen; the right side of the forehead and the right eyebrow were immovable. The right eye could not be perfectly closed, and there was much lachrymation. The right ala nasi was not raised in forcible breathing;

the angle of the mouth on this side was depressed, and saliva flowed from it. The cheek and neck were turned, the neck was stiff.

Sensation was diminished in the right half of the face. The right cornea and eyelids were less sensitive than the left; even less than the mucous membrane of the right nostril. There was also a difference in the sensibility of the two sides of the lips; the uvula was diverted to the left, and sensation was diminished in the right side of the pharynx. The sense of smell was impaired in the right nostril. The senses of hearing and sight were similar on the two sides.

From a consideration of this case, Dr. Lachowicz is led to the conclusion, that not only the facial nerve, but also branches of all three divisions of the fifth pair, were affected. A centred cause of the disease must be excluded, as the paralysis was confined to certain muscles, the reflex irritability remaining intact.

The illness lasted a month; and the treatment consisted in the application of vesicants, which were repeated seven times.—*London Med. Record*, Dec. 15, 1877.

—

On Spinal Paralysis in Adults.

In the *Berliner Klinische Wochenschrift*, for September 24th, Dr. GOTTFRIED SALOMON, of Hamburg, relates four cases of spinal paralysis occurring in adults, but apparently of a similar nature to infantile paralysis. Since Bernhardt first described cases of this kind, others have been published by Frey, Leyden, Erb, Eisenlohr, and Goltdammer. The four cases here given occurred within the space of two years.

The first was that of a previously healthy man, aged about 20, who, after standing sentry one night in a deep snow, noticed in the morning an unusual feeling of fatigue in both legs; it was not, however, until the day following that the loss of power was such as to oblige him to keep his bed; the paralysis rapidly increased until he was quite unable to stand. Iodide of potassium was administered for several weeks, and the patient improved so far as to be able to walk a little with a stick; he was always, however, worse after any exertion, and his condition now became stationary. Sensation was perfect, reflex irritability normal, the bladder and rectum unaffected. The patient was rather unsteady when standing with his eyes shut; his general nutrition, as well as that of the paretic extremities, was good, and no other evidences of disease could be detected. In applying the induction-current directly to the muscles, a very powerful and painful current had to be used before contraction was caused; the muscles of the leg were less sensitive than those of the thigh, and the peronei and tibialis anticus reacted worse than the muscles of the calf. The reaction throughout the right limb was worse than in the left. Muscular contraction was even more difficult to obtain when the current was applied along the course of the nerves; through the peroneal nerves, especially, it was only by the strongest current that the slightest reaction could be caused. By the galvanic current applied to the muscles, prompt, quickly ceasing contractions were produced. Under galvanic treatment the case progressed favourably, and the patient perfectly recovered.

A lady, aged about 25, who had had an attack of right sciatica, one and a half years ago, but had since been quite well, found one morning, after having danced a great deal the night before, that she was only able to move her right arm and leg imperfectly. For three weeks she was treated with purgatives, also occasionally with iodide of potassium, and some slight improvement took place; at the end of this time all movements were possible so long as the patient lay in bed; the pressure of the right hand was considerably less than that of the left, there was no wasting of the affected limbs, sensibility remained unaltered, and the general health undisturbed. No pain had been felt from the beginning of

the illness. The patient was able to walk slowly, but the right leg dragged; she could hold light objects in her right hand, but very soon it commenced to tremble a good deal, and she was quite unable to hold anything at all heavy. The results of the application of electricity to the affected muscles did not differ materially from those of the foregoing case, except that the muscles supplied by the right ulnar nerve were more sensitive to the galvanic current than the same muscles on the left side. The case was treated by galvanism for a fortnight, but, no improvement occurring, the patient was sent away for change of air, and gradually but completely recovered.

The third and most carefully observed case occurred in a merchant, aged 52, (Duchenne, of Boulogne, had previously fixed the limit of age for these cases at 45 years); the disease came on so gradually that the diagnosis was for some time uncertain. The man had been previously quite healthy, and was a great walker; one day he noticed that his left foot repeatedly gave way under him; from this time he was unable to walk so much or so fast as previously; especially in cold weather he rapidly became fatigued. For three months he gradually became worse, and when first seen at the end of that time the whole left leg unmistakably dragged in walking. Some wasting both of the leg and thigh was also observed, the adductors being most affected. Sensation and reflex irritability were normal in both lower limbs, but they both showed some degree of hyperæsthesia; the functions of the bladder and rectum were undisturbed. Co-ordination of movements showed no alteration; the patient was able to stand with closed eyes for any length of time, and had suffered no pain. Tested by the induction-current, a loss of contractibility was shown by the adductors of the thigh as compared with the extensors, by the peronei as compared with the muscles of the calf, and by all the muscles of the left lower limb as compared with those of the right. When, however, the galvanic current was applied to the muscles, those of the left limb showed increased reaction as compared with those of the right; this was referred to the atrophy and consequent diminution of resistance to the current. Applied along the course of the nerves, the galvanic current produced the same effects in the affected as in the healthy limb. At this time the disease was believed to be peripheral, and the case looked like one of peripheral rheumatic paralysis. For two months, treatment by galvanism and faradization was carried on; the reaction of the muscles to the latter improved, the wasting to a certain extent disappeared, and the patient himself perceived an increase of strength in the affected limb. One night, however, he awoke with a peculiar painful sensation in the left arm; he went to sleep again, but noticed a loss of power in the left hand in the morning; the muscles of the hand gradually wasted and lost their contractile power; the condition of the left leg remained for some time stationary and then steadily became worse. Before the muscles entirely lost their power of reaction, the author noticed a phenomenon which he has only seen once previously described (by Benedikt). It consists in this, that, when a powerful induction-current is applied to a muscle, it immediately contracts energetically, but the contraction at once ceases again as suddenly as if the current had been broken, although the latter really remains as strong as at first. This reaction may be caused any number of times in the same muscle with a slight pause between each application. Benedikt believes this phenomenon to be characteristic of disease of the brain, but Salomon has seen it in cases of nervous disease of undoubtedly peripheral origin, one of which ultimately ended in recovery. In the present case, the phenomenon could be caused for about a month, and was best seen when one pole was placed over the sciatic nerve below the gluteal fold and the other on the middle of the calf. A stronger current than that required to produce the result in question usually caused the contraction to last a longer time, and then pass into a trembling

movement; a weaker current produced no effect at all. The patient became worse; as the galvanic treatment produced no good effects he was sent to take the baths at Rehme, but the disease progressed more rapidly, affections of speech came on, both as regards articulation and the memory of words, so that a fatal result from bulbar paralysis seemed probable.

The fourth case is very similar to the second. A merchant, aged 30, had had right sciatica a year and a half ago, and now complained of paralytic symptoms in the same limb, these rapidly increased and wasting was observed; before long some paralysis of the arm of the same side commenced. The effects of galvanism and faradization were similar to those of the previous cases. The patient was treated by galvanism, centrally and peripherally, for eight weeks, and all the symptoms disappeared, first in the arm and afterwards in the leg; some slight wasting only of the latter was still observable when the patient was last seen.

Although the above cases, as well as those recorded by others, are similar in all essential points, they yet present many points of difference, especially in their degrees of acuteness and in the distribution of the disease. The four cases published by Goltdammer were all more severe than the foregoing, but all ended in recovery, while the third of the above cases seemed to promise an unfavourable result. The resemblance of the cases now given to infantile paralysis is so great as to lead to the belief that they are due to the same anatomical lesion. It may therefore be concluded that, in the majority of cases, the primary disease exists in the anterior horns of the gray matter of the spinal cord (poliomyelitis), but the question as to the nature of the morbid process still remains. *Post-mortem* examinations in cases of infantile paralysis have almost all been made so long after the commencement of the disease that it is impossible to say whether the appearances found are the same as would have been observed soon after the original attack; the changes noted in the cord have also been various in different cases, sometimes signs of atrophy, at others those of inflammation; one observer has also noticed an alteration in the white substance of the anterior lateral columns. We must therefore believe with Leyden that various anatomical lesions may lie at the root of infantile paralysis, and that the same is true of the spinal paralysis of adults. In the above four cases, it is probable that a primary atrophic process occurred, because at no time were any symptoms present which could point to inflammation, although such are frequently observed in children at the very commencement of the disease. In none of the above cases was there any fever, increase in reflex movements, nor any galvanic reaction such as would indicate inflammatory affection of the cord.

The etiology of the foregoing cases is also interesting; in the first case it is almost certain that cold was the cause of the attack; in the second and fourth cases it is not improbable that the previous sciatica had something to do with the subsequent disease of the spinal cord, although it is difficult to understand how a chronic neuritis, after causing no symptoms for a year and a half, should affect the cord. Leyden, in one of his cases, in which a *neuritis lipomatosa* was found, believed that this latter was the cause of subsequent myelitis. In the third case the etiology was doubtful; the case showed that a temporary improvement in the electro-muscular contractility, and even also in the atrophic symptoms, must not always be taken as justifying a favourable prognosis. The author relies especially upon the electrical phenomena in this case as supplying a new proof of the identity of spinal paralysis in adults with infantile paralysis.

A doubt may remain as to whether, in the last two cases and others similar to them (in which, after the lower limbs have become affected, like symptoms appear in the upper extremity), the morbid process in the cord has extended upwards, or whether the lumbar and cervical enlargements of the cord are indepen-

dently affected. In favour of the latter view are the facts that in none of the above cases was there any paralysis of the muscles of the trunk (which always occurs in acute ascending paralysis) and that in all necropsies of cases of infantile paralysis the two enlargements of the cord have been found to be solely or chiefly affected.—*London Med. Record*, Dec. 15, 1877.

—

Syphilitic Affections of the Nervous System.

Dr. JULIUS ALTHAUS, Physician to the Hospital for Epilepsy and Paralysis, Regent's Park, presents (*Med. Times and Gaz.*, Nov. 10, 1877) the following interesting sketch of syphilitic nervous affections.

A thorough knowledge of those nervous diseases which are produced by the subtle poison of syphilis is of the greatest practical importance, as they yield much more readily to specific treatment than the corresponding idiopathic affections of the nervous system, and unless thoroughly recognized, cannot be efficiently treated. An incorrect diagnosis in such cases will often doom a patient to destruction, while a true recognition of his state may save his life and restore his health.

Neuro-syphilitic affections belong generally to the later portions of the secondary stage, or to the tertiary period of the complaint. They are invariably preceded by a hard infecting sore, and usually by secondary symptoms affecting the skin and fauces. They may, however, appear as the first manifestations of infections of the system, in from twelve months to twenty years from the appearance of the primary affection, and have been now and then seen to follow the first rash and sore throat. They are observed at all ages, but most frequently between twenty and forty years; and this is of diagnostic importance, as hemiplegia or paraplegia coming on in youthful persons is in nine cases out of ten of syphilitic origin. The male sex is more liable to them than the female—which is in accordance with the fact that constitutional syphilis is altogether more frequent in men than in women.

Nerve-syphilis appears to affect with preference those persons in whom there is the neuropathic constitution, either hereditary or acquired. There is almost always a family history of apoplexy, epilepsy, chorea, megrim, or other nervous maladies, and frequently the patient himself has previously suffered from neuralgia or fits. Persons who have put an undue strain on their nervous power, either by excessive mental labour, or by free indulgence in alcohol and the sexual appetite, are more liable, when rendered syphilitic, to become subject to nervous maladies than those in whom there have been no such antecedents. Injury, such as a blow on the head or a fall, and depressing emotions, act frequently as exciting causes of these diseases. Finally, an unsystematic and too soon interrupted treatment of the primary affection has to be looked upon as a powerfully predisposing cause of nerve-syphilis.

Syphilis affects with preference the brain and cranial nerves, but does not spare the spinal cord. Anatomically, we find that the characteristic lesions are not meningitis or encephalitis, as was formerly believed, but repeated attacks of hyperæmia, tumour, and disease of the arteries.

1. The congestive form of cerebral syphilis shows hardly any striking features on the post-mortem table, more especially where the case ends fatally at an early stage of the complaint, from such complications as cystitis, decubitus, phthisis, or pneumonia. When the disease has lasted for a considerable time, the membranes of the brain are seen to have lost their transparency, and there is slight wasting of the cerebral convolutions—which latter, however, is not sufficient to explain severe symptoms which have been observed during life. The lesions are the

same, although in a slighter degree, as those which are found in general paralysis of the insane, and affect more particularly Hitzig and Ferrier's psycho-motor centres in the cineritious substance of the anterior lobes. In some of these cases the cervical sympathetic nerve has been found in a state of pigmentary degeneration, and it is probable that disease of the superior cervical ganglion of that nerve may have an important influence in the production of the repeated attacks of hyperæmia by which this form of brain-syphilis is characterized.

The symptoms which are observed under these circumstances resemble very closely those of general paralysis of the insane. They are at first indefinite, come and go, and a change in the mind and temper is the most characteristic feature. There is excitement or depression, with some confusion of thoughts, fussiness, and ambitious ideas or delusions. Apart from a general feeling of *malaise*, the patient does not complain of being ill. As time goes on, there is loss of energy, debility, embarrassed speech partaking of the nature of aphasia, and being cortical rather than medullary in its kind. The size of the pupils is unequal; the tongue is tremulous when protruded; there is tottering gait, and pins-and-needles and numbness in the extremities are complained of. When the symptoms on the part of the nervous system become more marked, there is often a simultaneous outbreak of fresh syphilitic manifestations on the skin, mucous membrane, or periosteum. The intellect and memory now suffer more decidedly, and symptoms of paralysis appear from time to time—viz., aphasia, agraphia, hemiplegia, and paraplegia. Such symptoms may last at first only for a few hours or days, but they gradually become more permanent. The general debility increases *pari passu;* and unless an energetic anti-syphilitic treatment be previously followed, the patient dies within a few years from the outbreak of the disease, from cystitis, decubitus, and general marasmus.

2. The second manifestation of cerebral syphilis is the syphilitic tumour, gumma, or syphiloma, which presents itself in two varieties, these being probably only different stages of development of the same deposit. There are the soft and hard varieties; the soft tumour being the earlier, and the hard swelling the later phenomenon. The soft tumour consists of a reddish-gray jelly, from which on section a small quantity of pinkish liquid is seen to escape. Its histological elements are round cells and nuclei, mixed with spindle and stellated cells, and few but large capillary vessels. The outline of such tumours is not well defined, and they seem gradually to merge into the surrounding normal tissue. They are chiefly found in the subarachnoid space, and grow from thence to the surface of the brain; but they also occur in the dura mater, and are in this situation generally harder than when situated in the soft and moist tissue of the pia.

The hard tumour is in many respects similar to tubercle. It is dry, yellow, of a cheesy consistency, and on section homogeneous. It occurs interspersed into the reddish-gray jelly which I have just described, or as a well-defined tumour of variable size. It consists histologically of a granulated substance otherwise devoid of structure. There are no bloodvessels or spindle-cells, but now and then heaps of pigmentary granules and crystals and oil-globules near the periphery. Its size varies from that of an almond kernel to that of a pigeon's or even a hen's egg, and its shape is frequently adapted to that of the spaces in which it is discovered. It is seen between the two layers of the dura mater, which are much thickened, and more especially in the falx cerebri. The skull-bone which corresponds to its situation is generally in a state of dry caries, and appears rough and attenuated, while the other portions of the skull are normal. The yellow hard tumour is probably owing to contraction and atrophy of the soft gumma. It is likewise found in the subarachnoid space, and from thence proceeds to the bloodvessels, nerves, and cerebral tissues itself. Occasionally, all the membranes and the cine-

ritious substance are grown together into a uniform mass, and cannot be separated; and the two varieties of tumours are then seen together. Soft jelly is imbedded between the dura and the surface of the brain, and one or several dry yellow tumours are lying in the fissures between the convolutions. The surrounding brain-tissue is in a state of red or white softening, or a portion of the cortical and medullary matter is changed into the same cheesy mass of which the tumour itself consists. Under the influence of anti-syphilitic treatment, nearly the whole of these changes may be repaired, and cicatricial patches are then discovered on the surface of the hemispheres.

At the base of the brain there is occasionally a diffuse infiltration with gray jelly, which can no longer be called a tumour, but must be looked upon as gummatous meningitis. The effusion in such instances is seen to spread from the olfactory bulb to the posterior portion of the cerebellum, and may even invade the cortex.

The symptoms of cerebral syphiloma differ considerably from those of syphilitic hyperæmia; and one that is hardly ever wanting, and also the first to appear, is a peculiar kind of headache, which appears chiefly at night, and is relieved towards morning. It is intolerably severe, and occurs in paroxysms which last for a few weeks, after which there is a remission, which is again succeeded by a fresh outbreak of it. Unless specific treatment is adopted, this may go on for years. The seat of the headache is mostly at the sides of the head, but it may also be frontal and occipital. It is sometimes localized in a very small area, and then generally increased by pressure; and it is owing to a gummatous deposit on the internal surface of the skull-bones, which irritates the periosteum and the dura mater. Sleeplessness is another symptom which is generally caused by the pain, but also occurs during free intervals; and it is apt to raise our suspicion, because it is mostly found in young persons, in whom insomnia is otherwise very rare.

After these symptoms have continued for a variable time, epileptiform attacks are apt to supervene, which sometimes resemble in every way an ordinary epileptic seizure. Unilateral convulsion, without loss of consciousness, is often connected with this condition; the muscular spasm starts from the thumb or first finger, or the foot, or the face, and affects only the arm or the leg of the same side, but becomes bilateral where the nerve nuclei of the two sides are associated; or there may be a regular epileptic seizure, *i. e.*, general convulsions and coma. When the hemispasm is on the right side, showing affection of the left hemisphere, temporary aphasia may be produced, and there may be hemiplegia with this, or left hemiplegia without aphasia. This hemispasm is due to irritation of the convolutions of the opposite hemisphere. When such fits succeed each other more or less rapidly, the mind becomes affected. There is irritability of temper; the patient is sometimes in a state of hysteria, laughing and crying alternately without any adequate cause; he is generally depressed in spirits; the memory is impaired, and the current of thoughts considerably retarded; the speech is embarrassed; the patient is unable to finish a sentence, and sometimes stops for a minute without being able to go on; he tries to hold himself with gestures, but even this aid after a time forsakes him, and complete aphasia, agraphia, and amimia may become developed.

In such cases there is no hemiplegia or any other form of actual paralysis; but there is paresis, such as we are apt to connect with disease of Hitzig and Ferrier's psycho-motor centres. The patient is still able to walk, to dress and feed himself, but he is clumsy in doing so; the foot drags on the ground; he becomes gradually more helpless; there are frequent epileptic fits, and sometimes he does not awake from the coma; or decubitus is developed, leading to blood-poisoning; or death supervenes from total exhaustion of the nervous force.

The symptoms just described arise from syphiloma of the subarachnoid space, which gradually involves the cortex of the brain and adjacent medullary matter. Where the third left frontal convolution and its neighbourhood are suffering, aphasia and agraphia will be the result. Where the anterior lobes are affected, there will be symptoms of paresis; while irritation of the posterior lobes causes melancholia, without much, if any, loss of motor power. But whatever portion of the cineritious structure is affected, syphilitic epilepsy will be the most prominent symptom.

The cerebral nerves generally suffer in exact proportion to the seat of the syphiloma, which causes irritation, and finally destruction of the nerve-trunk. The gummatous tumour sometimes grows right round a nerve, and compresses it, or it squeezes it against the bone; or an exostosis may occur in the osseous canal through which the nerve has to pass. It is quite true that a nerve is occasionally discovered passing right through a syphiloma at the base, without having lost its function or structure; but such cases are exceptional.

The general sequence of events is neuritis, followed by atrophy. The nerve appears at first reddish and softened, its sheath is thickened; and at a later period it is wasted and changed into a thin thread. Sometimes the sheath of the nerve appears perfectly normal, but on opening it the nervous substance is seen to have disappeared, and to be replaced by a reddish or yellow mass, corresponding in structure to the soft and hard syphiloma. In other instances the syphiloma grows directly from the pia mater along the bloodvessels into the nervous substance, more particularly into the chiasma of the optic nerves, causing atrophy of the same. Finally, there may be no structural lesion, although symptoms of paralysis, anæsthesia, and neuralgia may have been present during life. Dr. Hughlings-Jackson[1] is therefore incorrect in stating that the pathogenesis of these cases is nothing but a squeezing of nerve-fibres by overgrowth of the connective-tissue element; this is only one of several causes.

Amongst the cranial nerves the third is most frequently affected by syphilis, and the most common symptoms are ptosis, external strabismus, and paralytic dilatation of the pupil. Vertigo is occasionally a symptom of paralysis of this nerve. Syphilitic neuro-retinitis and simple retinitis are also common. There is effusion of serum into the layers of the retina, which is sometimes slight and sometimes considerable, and is generally preceded by hyperæmia. The outline of the disk is rendered indistinct and hazy, and the neighbourhood of the yellow spot is particularly affected. Sometimes the vitreous humour becomes turbid, and prevents a thorough ophthalmoscopic examination. Where the effusion takes place rapidly, the sight may be quickly destroyed; but in most cases it occurs slowly. It is not unfrequently associated with irido-choroiditis. Dr. Hughlings-Jackson has pointed out that double optic neuritis may often be recognized by the ophthalmoscope before vision suffers, and that it may be for some time the only symptom, or be accompanied with such slight symptoms as to be hardly noticed.

The portio dura and the fifth and sixth nerves may likewise suffer; there is then inability to close the eye, neuralgia of the face, with lachrymation, paralysis of mastication, and internal strabismus.

3. The third and last form of cerebral syphilis is disease of the arteries, which affects with preference the carotids, the circle of Willis, the Sylvian artery, and that of the corpus callosum. The first symptom of disease is, that the artery becomes less transparent, and loses its pink colour, assuming instead of it a white-grayish appearance. At the same time the vessel loses its cylindrical shape and becomes quite round, while its coat is hardened, and gives a cartilaginous sensa-

[1] Journal of Mental Science, July, 1875, page 5.

tion to the finger. The diameter of the vessel is very much reduced by the deposition of a moist gray substance, which later on becomes hard and dry, and what remains of a free canal is often blocked up by thrombosis, so that ultimately the whole artery is changed into a solid cord. This deposit takes place chiefly between the endothelium and the elastic fibres of the vessel. At first it appears to consist of endothelial cells, which multiply considerably, and develop into connective tissue. This growth goes on in a longitudinal as well as in a transverse direction, and the degeneration is therefore apt to spread to the branches of the artery.

Heubner and Cohnheim have distinguished two spheres of cerebral nutrition, which differ considerably from one another, viz., the basal and the cortical sphere. In syphilitic disease of cerebral arteries, these considerations become of paramount importance. The basal sphere comprises the vertebral, basilar, and carotid arteries, the circle of Willis, and the commencement of the anterior, middle, and posterior cerebral arteries. All these vessels give off small branches vertically, which penetrate directly into the cerebral matter, become divided and terminal, and then proceed through the capillary vessels into the smaller veins. It is particularly in this basal sphere, which supplies the central ganglia, that plugging of the arteries from deposit and subsequent thrombosis becomes so dangerous to the nutrition of the parts; for as there is no anastomosis, the various forms of necrobiosis, such as red, yellow, and white softening, are easily produced, the results being generally syphilitic hemiplegia.

In the cortical sphere of nutrition, on the other hand, the plugging of arteries is not of the same vital importance, because the peripheral part of the blood-vessel may still be supplied with blood by anastomosis in the pia mater. The cortical arteries run for a long time in the pia mater without giving off any branches to the cerebral substance: they divide in the pia, become constantly smaller, and anastomose so thoroughly with their fellows, that a kind of network is established, by means of which not only the smaller branches, but also the principal arteries, are made to communicate with each other. The cerebral matter only receives small capillary vessels from this large vascular net after it has been allowed to spread over a considerable surface. Although, therefore, the danger of starvation is much less in the cortex than in the central ganglia, nevertheless a rapid plugging cannot pass without causing mischief, inasmuch as it decreases the pressure in those vessels; while, if collateral circulation is established, the pressure may be suddenly increased above the normal standard. The cineritious substance is thus exposed to considerable vicissitudes of circulation, and the temporary apoplectic seizures which are so common in this form of syphilis find in them a satisfactory explanation.

In both spheres of nutrition, however—the basal as well as the cortical—simple narrowing of the arterial tubes, without actual plugging of the same, must have a deleterious influence on the nutrition of the entire brain. It increases the resistance offered to the current of blood, which becomes further retarded by the rigidity of the tube, which has lost its elasticity. The interchange of oxygen and of nutritive material is therefore considerably lessened, which explains the loss of energy, the impairment of the mental functions, and the somnolence which is found in a number of these cases.

Where the basal sphere of nutrition suffers, the symptoms are generally rapidly developed. It is not by any means rare that, after a few insignificant premonitory symptoms, there is a sudden stroke of apoplexy, which proves fatal. The symptoms of this form of apoplexy are in all respects similar to those of ordinary apoplexy from cerebral hæmorrhage. Multiple thrombosis of several important basal arteries is discovered post-mortem.

In other cases there are premonitory symptoms chiefly on the part of the cranial nerves. These are ptosis, double vision, weakness of sight from optic neuritis, anæsthesia, and neuralgia in certain branches of the fifth nerve, spasm in the portio dura and sixth nerve, etc. These symptoms may come on, as it were, spontaneously, or after mental and physical efforts, excitement, and indulgence in alcohol and the sexual appetite. After a time there is a somewhat slowly produced attack of hemiplegia, with or without aphasia, and without loss of consciousness. If collateral circulation is established the patient may gradually improve; or he sinks into a somnolent condition resembling that of typhoid fever. There are headache, confusion, fussiness; the patient has a staring, absent look, and a morose expression of the countenance. He will on occasions pass his water or fæces in the middle of the room, and does other things which show absence of the feeling of shame; but on being talked to he generally becomes more reasonable. He will often refuse food, and die in the first or subsequent attacks; yet where all these symptoms have been present an immense improvement may by proper treatment be brought about in the patient's condition.

When there has been true hemiplegia, recovery is generally imperfect, even under the best treatment. There are, however, temporary kinds of hemiplegia, which only persist for a day or two, and where the starvation of cerebral tissue is evidently of too short duration to cause any great degree of softening. In some cases hemiplegia is followed by Türck's sclerosis of the lateral columns of the spinal cord, just as after ordinary cerebral hæmorrhage.

Syphilitic Affections of the Spinal Cord.—These are much more rare than the corresponding diseases of the brain and cranial nerves, and there are as yet only few post-mortem examinations of such cases put on record.

The syphiloma occurs in its two forms—viz., as jelly and as cheese—in the pia mater and the subarachnoid space. The three membranes are found grown together with each other and with the surface of the cord. There are, however, not circumscribed tumours as in the brain, but a kind of infiltration of the meninges and lymphatic spaces by gummatous effusions, which appear small, multiple, and disseminated. Where the membranes grow together with the periosteum of vertebræ and the surface of the cord, there is generally proliferation of the neuroglia and wasting of the white columns. Some cases in which the symptoms of acute ascending spinal paralysis are observed during life seem to be owing to hyperæmia simply, as no real structural alterations of the cord have been discovered.

In this latter case the symptoms generally commence at an early period—viz., in the first year—and are accompanied by the usual early manifestations of constitutional syphilis. The first symptom is sudden paraplegia, with incontinence of urine and the fæces. There is no pain in the spine, and no anæsthesia of the limbs. Decubitus soon becomes developed, and the patient dies within a few weeks from the beginning of these symptoms.

More frequently, however, paralysis comes on in the later periods of the disease, after many other symptoms have existed for a long time. There is muddy pallor of the skin, and a disagreeable smell about the patient, who is generally feeble and in a state of constant *malaise*. He experiences pain at different points of the spine, which is increased by pressure; and also pain, pins-and-needles, numbness and stiffness, in the lower extremities. These symptoms come and go, and then there is all of a sudden an attack of paraplegia or hemi-paraplegia. Where the seat of the disease is in the lower portion of the dorsal cord, there is also paralysis of the sphincters. If the case is not well treated, the paralysis remains stationary, and ultimately decubitus is developed, which shortly leads to a fatal result. By proper treatment, however, the patient may get well in a very

short time. Some years ago I was consulted by a patient of this kind, only two days after the paraplegia had become developed. He was carried into my consulting-room on the back of a cabman, and had completely lost power over the lower extremities, but only slightly over the sphincters; there was no anæsthesia. Under full doses of iodide of potassium the patient improved most rapidly, and walked briskly into my room a week after I had first seen him. He did, however, not perfectly recover, as a slight degree of weakness in the left leg has remained up to this day.

Where the cervical spine is affected, matters are more serious. There is then not only paraplegia and paralysis of the sphincters, but also of the thoracic and abdominal muscles, the upper extremities, and the diaphragm. Asphyxia from paralysis of the phrenic nerve, or pneumonia, generally carry the patients off in a short time, unless, as we have seen it, the remedy proves stronger than the disease. But in cases of this class we cannot look forward to perfect recovery, as the posterior columns of the cord generally become disorganized beyond thorough repair, and a state resembling locomotor ataxy may remain for life.

—

Some Affections of the Nervous System dependent upon a Gouty Habit.

Dr. J. Russell Reynolds, Prof. of Principles and Practice of Medicine in University College, London, calls attention (*British Med. Journ.*, Dec. 15, 1877) to the dependence of "nervous derangement" upon a "gouty habit." Although long known, he does not think that the frequency of such association has been fully recognized, and his present object, he says, is to recall attention to the subject, and to point out, so far as I am able, the characters of disturbances in the "nervous" functions which would lead to a diagnosis or suspicion of a "gouty" diathesis.

First, let me say a word or two as to both "gout" and "gouty habit." The former means a "special" change, of inflammatory sort, in the tissues of the joints, accompanied by the deposit in those tissues of urate of soda. The latter, the "gouty habit," means the underlying cause of those special symptoms in the joints, a something which may express itself also in various organs and in diverse ways.

We do not know what is the starting point or essential fact of "gouty habit," but this we may remember, that between the simply chemical process of food-digestion in the stomach, and the ultimate making up, and breaking down, and carrying away of the waste, of tissues—be they in brain, or nerve, or heart—there comes in the process of "assimilation"—or "concoction of the juices," as our forefathers called it—and also the conveyance of "excretory" material to excreting organs, and that these involve an infinity of changes in the quality of blood. This blood, which comes from food and goes to tissue, which comes from tissue and goes to excreting organs, may be healthy and lead to the formation of healthy tissue and the performance of healthy function; or it may be so deranged as to pervert the "nutrition" of certain tissues by a specific inflammatory process —"gout;" or it may disturb the "functions" of other organs by the impression which it makes upon them—"gouty habit." In other words, the "gouty habit" is a "toxæmia," chronic in its duration and multiform in its phases—a "blood-poisoning" induced *within* the system, and so far differing from the toxæmia with which we are so familiar, but which is introduced from *without*. That which has led me to believe that many so-called "nervous affections" are due to this "gouty habit" may be thus summarized: 1. The actual presence of gout in the joints of the individual at the time or at previous times. 2. The evidence of "gout" in ancestors or collateral relatives. 3. The frequent occurrence of acid eructations

with chronic dyspepsia. 4. The emission of pale, limpid, acid urine, of low specific gravity, and with traces of albumen or sugar, or both. 5. The variability of symptoms, both as to kind and place. 6. The presence of some alterations in skin-nutrition, such as eczema and psoriasis. 7. The impossibility of referring the symptoms to any known disease of brain or spinal cord. 8. The immediate relief of such symptoms after treatment by colchicum and saline aperients, although simple purgation and treatment upon many other principles had failed.

In the endeavour to arrange this subject, there is great difficulty to be encountered; but I will adopt the method of describing "groups of symptoms" under five headings:—

I. *Mental Disturbances.*—Many cases have come before me in which there was great restlessness; the patient could not be still for a moment; was alternately excited and depressed; slept badly, or not at all; was intensely hysterical; and could not attend to business; while others have complained of failing memory; of want of power of attention; of suicidal thoughts; of intense melancholy; others of sounds in the ears; voices, sometimes distinct, sometimes not; and some or all of these of long continuance; but yet all disappearing under treatment upon the hypothesis I have mentioned. These symptoms often alternate with, or accompany, those which I mention next.

II. *Pain in the Head.*—Some of the most intense head-pain that I have met with has been of this character, and been relieved by treatment of an anti-gouty description. The special features are pain on one side of the head, usually parietal or occipital; "grinding" habitually; but forced into almost intolerable severity by movement, such as the jar of carriage-riding, or running down the stairs of a house; and this without any over-sensitive nerve-points; without tenderness of scalp; and without any aggravation by mental exertion. It is not affected by posture or by food; it is relieved by physical rest, and may disappear entirely after treatment of the kind that I have mentioned. It is not anæmic, nor neuralgic, nor dyspeptic (in the ordinary sense of that word), and it yields to nothing in the way of treatment that may be directed against those common varieties of headaches. It is very often associated with some of the other symptoms that I have mentioned, and they must be taken into account when making a diagnosis of the malady.

III. *Modified Sensations.*—1. Of these, vertigo is one of the most common, and it may exist alone. It takes sometimes the form of objective movement, but more frequently that of subjective movement, such as the sense of "swimming" or "floating" away. This vertiginous sensation is sometimes determined by posture, and occurs only when the patient lies on one side, it may be the left or the right; the apparent movement of external objects being from that side towards the other.

2. With vertigo is often associated "noise in the ears," not the sound of "voices," but drumming, hissing, singing sounds, recognized to be in the ears, or in one ear, or in the head, and not appearing to come from outside. There is not, or need not be, any mental delusion with regard to these; the patient knowing well that they are inside his organism.

3. Associated with such vertigo and tinnitus there is frequently deafness, and the feeling of "beating in the ear;" and the symptoms are like those described by Menière; but I have found them in the vast majority of instances associated with a gouty habit. With vertigo and tinnitus there may be much mental depression, or attacks of bewilderment, amounting sometimes to those of *le petit mal.*

4. Modified sensations in the limbs may occur. A large number of people

complain of "numbness," "tingling," "creeping," "deadness," or some other altered state of sensibility in the limbs, which, sometimes taking a paraplegic, sometimes a hemiplegic, distribution, have caused much anxiety; and the more so, because the suggestion of organic disease of brain or spinal cord has sometimes been conveyed, and yet all these troubles pass away. That which I have observed to be in them the most characteristic of their gouty origin is their variability in kind and locality. To-day, for example, there is "coldness" in the left leg; to-morrow, "a sense of heat;" last week, a "pricking" in the right hand; the week before, a "stinging" feeling on the side of the head, or in the tongue. This wide distribution and variability, so alarming to the patient, is much less alarming to the physician, who recognizes in these very facts the elements for a favourable prognosis.

Here, too, I must mention the great frequency with which pains, flying pains, darting pains, often like those of ataxy, are met with in the limbs. So-called "sciatica" is of frequent occurrence, and "pleurodynia," and "myodynia" of all localities are common enough. The sciatica of gouty sort is often double, shifting from side to side with a frequency that does not improve the temper of the gouty patient, but may raise the hope of his physician as to the probability of cure. Other seats of pain are most frequently the insertion of the deltoid muscle and the inner aspect of the upper arm, the ankles, the heels, and the interscapular region. The lower mammary region on the left side is often the seat of pain, as it, indeed, is in many other maladies.

IV. *Modifications of Muscular Action.*—1. Cardiac palpitation, intermittence or irregularity of pulse, or painful aortic pulsation at and below the epigastrium, often suggest to the patient the presence of cardiac disease; and it is worthy of remark that, on the one hand, a very great amount of discomfort may often be felt by the patient when the physician can discover no change in sound of heart or rhythm of pulse; and that, on the other, disease of aortic valves, and other obvious signs of cardiac change, may often be discovered by the physician in a gouty patient, he having never been conscious of any thoracic trouble.

2. Flickering contractions of muscles in the limbs; tonic spasm, with cramp-like pain; and "startings" on falling asleep have often appeared to me to be of gouty origin, and that for the reasons that I have assigned. Priapism, without erotic feeling, is also very common. It sometimes disturbs the sleep, is felt on awaking, but quickly disappears without emission,

3. Local weakness of muscles, such as ptosis, single or double; want of co-ordination of movement of the limbs, both upper and lower, giving an awkwardness of movement and an ataxic gait, are among the symptoms that may have the course and history that I have suggested. I have recently seen several cases of ataxia, and one with marked double ptosis, which had been treated unsuccessfully upon a syphilitic hypothesis, but which recovered speedily when the treatment was based upon a gouty theory.

V. Lastly, there are symptoms beyond those which I have mentioned, and which do not form part of the matter for my description now, but which I will simply enumerate as being further guides or helps in the diagnosis of gouty cases: 1. Dyspepsia, cardialgia, distension of stomach and colon with flatus, pyrosis, and acid eructations; 2. Varicosity of veins, with tendency, upon slight injuries, to occlusion of veins; 3. Brittleness and vertical lining of the nails of both fingers and toes; 4. Slight conjunctivitis with occasional chemosis.

The groups of symptoms that I have enumerated rather than described sometimes coexist, sometimes alternate, and their phases are often very puzzling. They present great difficulties in diagnosis and in treatment until the clue is caught. It is often saddening to look through the carefully cherished prescrip-

tions, and especially when they are one's own, and see the long array of drugs that have done no good—iodine, bromine, strychnine, quinine, zinc, iron, silver, cerium, arsenic, valerian, and hops, to say nothing of mercury, bitter infusions, mineral acids, and the like; but then one's sorrow may often be turned into joy—and a joy in which the patient most heartily participates—when a simple treatment, such as I have suggested, is adopted, and all the troubles disappear with a rapidity that seems quite magical, and reminds one of that beautiful process of clearing a photographic picture by cyanide of potassium.

—

On Inhalation of Salicylic Acid in Whooping-Cough.

R. Otto (*St. Petersburg Med. Wochenschrift*, Nos. 22 and 23, 1877), believing whooping-cough to be due to the presence of a vegetable parasite, employed inhalation of a two per cent. solution of salicylic acid in an epidemic of the disease which broke out at Lisetz in Livonia, in August, 1876. The treatment was applied in seven cases, and was commenced as soon as the convulsive stage appeared. The number of paroxysms was rather rapidly diminished in all the cases; the best results were observed in children who were in rooms of which the temperature was kept equal. The author says that he does not attempt to show from these few cases that this treatment is absolutely effectual in whooping-cough; he merely desires that the remedy should have a further trial.—*London Med. Record*, Dec. 15, 1877.

—

On a Case of Cutaneous Emphysema following the Opening of a Pulmonary Cavity into an Intercostal Space.

Dr. G. Galli describes, in the *Rivista Clinicá de Bologna* (extract in *Lo Sperimentale*, October), the case of a phthisical girl, aged 17, who had an extensive superficial cavity at the apex of the right lung. One day the fever increased, and, a short time afterwards, the patient complained of pain at the part of the chest corresponding to the cavity. A soft swelling was formed there, which, on being handled, gave the sensation of crepitation characteristic of emphysema. The swelling gradually spread to the whole right side of the chest, the neck, the face as far as the forehead, and the upper limbs. The patient died six days after the appearance of the emphysema.

At the necropsy, a large cavity was found at the apex of the right lung. The adjacent pulmonary pleura had become firmly adherent to the costal pleura; and at its anterior part the cavity communicated, by means of a large opening in the third intercostal space, with the areolar tissue of the thoracic walls. The third and fourth ribs were inflamed, and denuded at the seat of the lesion. The great and small pectoral muscles, the serratus magnus, etc., were of a blackish colour, softened, and infiltrated with fetid purulent matter.—*London Med. Record*, Dec. 15, 1877.

—

Thoracentesis.

Dr. Dieulafoy, in a series of papers published in the *Gazette Hebdomadaire* (October 5 and 12, November 9 and 16), under the title "Thoracentesis by Aspiration in Acute Pleurisy," and founded on 65 cases of acute pleurisy and 149 of thoracentesis by aspiration, after going into a critical examination of the various opinions that have been published of late years, arrives at the following conclusions:—

"Thoracentesis by aspiration in acute pleurisy is an insignificant operation and absolutely inoffensive. It should be practised with the needle No. 2, and the

quantity of liquid at a *séance* ought never exceed 1000 grammes. The accidents of which it has been accused are of different kinds, and may be divided into three categories. Those of the third category (the so-called transformation of a serous liquid into a purulent one) cannot be imputed to the thoracentesis; for I believe I have demonstrated that this is due to a natural evolution of legitimate purulent pleurisies, and in nowise to an induced transformation of their liquid. The accidents of the second category (syncope, asphyxia, hemiplegia), due to autochthonous or migratory coagula of the heart and pulmonary vessels, or supervening under the influence of other causes (as pleuro-pulmonary gangrene, and the general condition of the individual), should not be placed to the account of the thoracentesis, since they are met with in the course of pleurisies before as well as after thoracentesis, supervening on the fact of the pleurisy itself, and not on the fact of the operation. The incidents of the first category (acute œdema of the lungs, and pulmonary congestion with or without albuminous expectoration) are the only accidents which are directly and truly imputable to thoracentesis; but they are also precisely those which may be easily avoided and prevented. On the investigation of all the examples of this class of accidents, I find that they have always been associated with either the immediate evacuation of a large quantity of liquid, or with pleurisies complicated with affections of the heart, bronchitis, tuberculosis, etc.; and the precept is to limit the quantity of liquid extracted at a time, and to proportion this to the complications which may exist. The operative procedure being fixed and invariable, there is nothing variable but the indications of thoracentesis, and these are summed up in two words—the thoracentesis is either urgent, or it is discussionable. The urgency of the operation is entirely dependent on the quantity of liquid effused, viz., when this amounts to about 1800 or 2000 grammes in a well-formed adult. In discussionable cases, where such amount does not exist, we should await the termination of the febrile stage, and aspiration should only be resorted to when the absorption of the liquid is slow and difficult."—*Med. Times and Gazette*, Jan. 5, 1878.

—

Perforation of the Aorta by a Foreign Body.

Dr. ASCHENBORN, of the Bethanien Hospital, Berlin, relates (*Berlin Klin. Woch.*, Dec. 10) the interesting case of a lad, sixteen years of age, who swallowed a needle with a hard piece of bread on June 29. The needle was detained in and penetrated the œsophagus, but did not cause much pain during the first two days. By the efforts of swallowing food, which was afterwards taken, the needle was thrust in still further, and on the third day penetrated the descending thoracic aorta. The connective tissue between the aorta and the œsophagus was separated by the effused blood; but the coagulum which was there formed acted as a plug, arresting the further hemorrhage for two days, but induced severe pain by the pressure it exerted on the mediastinum. The heart was also thrust forward by the extravasation. Under the influence of particles of food, which penetrated by the side of the needle into the mediastinum, the coagulum soon putrefied, and, ceasing to act as a plug, the bleeding from the wound in the aorta recurred in increased quantity, and on July 9 terminated the patient's sufferings. At the autopsy a needle 5.0 centimetres in length, with a long thread attached, was found penetrating the œsophagus and aorta.—*Med. Times and Gazette*, Jan. 5, 1878.

—

On Jaborandi in Cardiac and Renal Dropsy.

Dr. PURJESZ of Buda-Pesth some time ago published an article in the *Berliner Klinische Wochenschrift*, in which he stated that the diaphoretic and sialagogue action of jaborandi diminished with the continued use of the drug; and that

under its use, in cases of parenchymatous nephritis, while diuresis was promoted, the amount of albumen in the urine was increased. In a subsequent paper, published in the *Deutsches Archiv für Klin. Med.*, Band xvii., he gives the results of observations on four patients under Professor Wagner's care in the University Clinic. Two had contracted kidney; one had insufficiency of the mitral and tricuspid valves with considerable ascites. It was found that the diaphoretic action was unequal, being almost absent in one; while the action on the salivary secretion was well marked. The diuretic action was but slight; in both cases of the contracted kidney, the medicine had no effect on the progress of the disease, while the albumen in the urine increased from the first dose; in the case of heart-disease, the ascites remained unaffected; and in the case of psoriasis, the increased perspiration had no effect. In all the cases, the appetite was impaired by the medicine. The author considers that these results confirm the observations previously made by him, that jaborandi is not a proper drug for the treatment of cardiac and renal dropsy.—*London Med. Record*, Dec. 15, 1877.

—

On the Diuretic Action of Blatta Orientalis in Scarlatinal Nephritis.

S. UNTERBERGER (*Petersburg Med. Worchenschrift*, 1877, No. 34) has tried, in the Nicolai Children's Hospital at St. Petersburg, the blatta orientalis, recommended by Bogomolow as a remedy for dropsy. It was given to children suffering from scarlatinal nephritis, in doses of about two and three-quarters to four and a half grains three times daily. The œdema diminished, the weight of the body was decreased, the urine was increased in quantity and contained less albumen, while the kidneys and bowels were not injuriously affected.—*London Med. Record*, Dec. 15, 1877.

—

A Case of Paralysis of the Diaphragm with Peculiar Laryngeal Symptoms.

Dr. EDWARD LONG FOX, Physician to the Bristol Royal Infirmary, reports (*British Med. Journ.*, Dec. 15, 1877) the following interesting case:—

In December, 1875, a boy came under my observation who had been under the care of Mr. Reid, of Tenby, and Dr. West, of London. Mr. Reid's account dated from a month previously. He had found tenderness and pain in the epigastric region, with great enlargement of the abdomen, dulness on percussion over the epigastric, right hypochondriac, and upper part of the umbilical regions. There was a slight sound on inspiration, somewhat like an eructation, but evidently spasmodic and involuntary. This sound increased in intensity day by day, until it became most distressing, sometimes resembling the clucking of a hen, sometimes the noise made by a turkey, and eventually it became like the scream of a peacock. It ceased during sleep; but sleep was very difficult, and henbane had been found the best hypnotic.

Mr. Reid considered the child was suffering from albuminous liver and kidneys; the more so that, on one occasion, he had found the urine albuminous. But this latter symptom may have been accidental, as the urine was always healthy during the year of my observation of him.

At the date of my seeing him, he was taking a nightly dose of henbane to the extent of two drachms. He seemed a bright, intelligent boy. On stripping him, the upper part of the abdomen was very prominent. The respiration was rather forced and wholly thoracic; the diaphragm seemed to be completely inert; and I considered that the prominence and dulness of the upper part of the abdomen were due to the alteration of the position of the liver and other organs caused by this condition of the diaphragm. The respiration was very noisy both on inspiration and expiration, and simulated a peacock's cry pretty closely; it

never ceased for an instant, except during sleep. Swallowing was rather difficult, especially of solids. The eyesight was not as good as before his illness, but he somewhat exaggerated his weakness in this respect. Ophthalmoscopic examination revealed no lesion in the eyes. His general health was otherwise pretty good; but he was both excitable and depressed, from consciousness of the annoyance caused to other people by his noisy breathing. Sensory and motor powers in the limbs were perfect.

The only previous history that seemed to bear upon the causation of these symptoms was that, nearly a year before his present illness began, he had had a severe blow on the cervical region of the spine from a boy at school. My belief was that the boy was suffering from paresis of the phrenic nerves and irritation of the recurrent laryngeal, the results of an irritative condition of the cervical cord induced by the blow. In the absence of post-mortem investigation of the cord, the lesion must remain unknown; but it may be presumed that it was entirely connected with the circulation in the spinal cord.

Under gelseminum, and then strychnia, with faradization used with one pole over the cervical spine and the other along the upper and most prominent part of the epigastrium, the diaphragm in about two months' time began to act slightly, and after three months abdominal respiration was restored. His power of swallowing and his eyesight improved, and the dose of henbane was gradually reduced. His mother and he were turned out of several lodgings in consequence of his noisy respiration; but in six months' time this also improved, mainly under the use of strychnia, with the good air of country lodgings, and with farm-house occupations and food; and it ceased twelve months ago. Whilst he was getting better in this respect, the peacock's cry could always be induced by any loud sudden noise, or, indeed, by anything that caused a jar. He has now been perfectly well for a year, and is able to resume his education.

Surgery.

The Clinical Aspect of Central Localization.

M. TILLAUX, while bringing some specimens under the notice of the Société de Chirurgie (*L' Union Méd.*, December 13), observed that clinical observation had not entirely confirmed the results of physiological experiments on cerebral localization, and, as far as indications for the employment of the trephine were concerned, he owned himself entirely of the opinion of Prof. Gosselin (*Monthly Abstract of Medical Science*, June, 1877, page 272), that we are not authorized to resort to this instrument for primary injuries except in cases in which there is fracture with depression. He can admit but one exception to this rule—viz., when there is a fissure of the cranium opposite the centres, and motor paralysis of the opposite side. Beyond this case, the trephine is not applicable for the treatment of primary effusions of blood. Is it the same with respect to slow, delayed accidents, which appear only consecutively? M. Tillaux believes not; and it is in this direction, in his opinion, that surgeons should seek for indications for the employment of the trephine. In this view he laid specimens before the Society. The first of these was the brain of a man upon whose head a shutter had fallen, striking him upon the left side of the posterior part of the skull. The man immediately became unconscious, and on the fourth day was attacked with aphasia

and with right brachial monoplegia. These accidents disappeared, and he was able to resume his employment, although there still remained very intense pain in the head. This brought him under M. Tillaux's care at the hospital, where he found great relief from the iodide of potassium. After a while a new attack of aphasia and right brachial monoplegia occurred, which terminated fatally. At the autopsy there was found a patch of meningo-encephalitis, which measured more than 0.04 centimetres, and occupied the whole of the third left frontal convolution. In face of such a lesion, the seat of which could be perfectly well determined by the occurrence of the aphasia and monoplegia, but the extent of which could not be suspected, M. Tillaux demanded what would be the effect of the trephine applied at the point indicated by Prof. Broca. The other specimen, which had been lent by M. Raynaud, was derived from a woman fifty-nine years of age, who had been the subject of complete left hemiplegia, with hemianæsthesia, immobility of the head on the side of the paralysis, and conjugate deviation of the eyes of the same side. At the autopsy there was found an encephaloid tumour the size of an egg, which occupied the most remote part of the fissure of Sylvius, having depressed the first temporal convolution, and projected upwards the parietal lobe of the left side and the third ascending frontal convolution. It is evident that this tumour would produce the phenomena of compression, which, affecting the motor centres at a distance, might give rise to serious errors as regards cerebral localization. From these cases M. Tillaux draws the following conclusions: 1. Even when the lesion is in intimate relation with the convolution which is the centre of the abolished motion there is danger, in applying the trephine, of coming upon a large patch of meningo-encephalitis, and thus to perform an operation which is at least useless. 2. A lesion of the brain may give rise to disturbances at a distance; so that by following rules drawn from the doctrine of cerebral localization for the application of the trephine, we are liable to attack a point very remote from the evil.

M. Lucas-Championnière observed, in reference to the second of these cases, that all writers put aside cases of cerebral tumours in relation to these localizations; but the first case proves the utility of the doctrine of localization in a surgical point of view; for if the patient had been trephined he might have been cured. He is an advocate for the use of the trephine for the dissipation of the primary accidents in these cases. In his opinion, patients have been let die who might have been saved by the operation. There is no example on record of primary paralysis in these cases having been cured without operation; so that there is good reason to seek for indications for its performance. M. Tillaux explained that he is no adversary of indications for the use of the trephine being drawn from cerebral localization; but he believes that more light as yet is wanted upon the subject. As to the case which he had related, trephining certainly would not have saved the patient, seeing on the one hand the extent of the lesion, and on the other that the lesion of the soft parts was situated 0.07 centimetres behind the cerebral lesion.

At a subsequent meeting of the Society (*Gaz. des Hôp.*, December 15), M. Perrin stated that he quite agreed with M. Tillaux as to the danger of hasty trephining. Cerebral localizations can be no guide for the surgeon in this operation. The cerebal disturbances that ensue may be transitory or inaccessible to treatment; and trephining in many cases would only add to the complications, some of those who recover after it recovering in spite of it. M. Lucas-Championnière has expressed himself too absolutely as to the non-recovery after fracture with primary cerebral complications, as is shown by two cases which have come under M. Perrin's own care. In one of these a soldier, whose skull was fractured by a shell, passed from a state of coma into one of aphasia, from which he recovered com-

pletely in two months. In the other case, a man had the right side of the skull fractured, with slight depression, during the siege, and immediately became unconscious. Hemiplegia of the left side soon occurred, and paralysis of the right side of the face, with dilatation of the pupil and loss of hearing on the same side, his speech being also embarrassed. These accidents became afterwards complicated with incontinence of urine, obstinate constipation, and eschars of the sacrum and paralyzed limbs. Still the patient was cured, although so long a time as two years was required. M. Desprès stated that he had never as yet met with a case in which he found any indication for trephining. This abstinence from the operation was suggested to him by a case which he had seen in the service of Manec in 1859. A workman, while digging in a pit, had a heavy body fall on his head, which fractured the skull, driving into the wound fragments of bone, the scalp, and the cap he wore. For five days the patient did well, and then for a fortnight he had brachial monoplegia, and a slight degree of facial paralysis. In a short time all that had penetrated the cranium was eliminated, and the patient was cured without any other treatment than expectation.—*Med. Times and Gaz.*, Dec. 29, 1877.

—

The Pathology of Concussion.

A new light has been thrown upon this obscure question by the experimental investigation which M. DURET, already so well known for his careful anatomical and experimental researches on the nervous system, has recently laid before the Société de Biologie. A mere oscillatory disturbance of the encephalon is not a satisfactory explanation of the loss of consciousness and the cardiac and respiratory troubles which supervene after a violent blow on the head; and it is contrary to what we know of the physical and physiological condition of the encephalon to believe that such oscillations could be so slight as to produce such marked disturbances of function without effecting at the same time some anatomical alteration. Blows on other organs do not alter their functions without leaving traces of structural change. In his experiments on animals, M. Duret was able to reproduce the symptoms of concussion in the human subject in all its degrees of temporary loss of consciousness with slow respiration and slow pulse, greater duration of the same phenomena, and, lastly, sudden death. As blows upon the head produced results difficult to analyze, he proceeded by making a small opening in the cranium by means of a perforator, and injecting various fluids through this. Sometimes he used water, sometimes coagulable substances, such as gelatine. As experiments upon the cerebral hemispheres proper have shown that these may be removed in almost their entire extent without producing the cardiac and pulmonary symptoms of concussion, he was led to expect that the medulla was the part in which the lesions, if any, would be found. By injecting a large quantity of fluid, he succeeded in bursting the fourth ventricle and tearing up the aqueduct of Sylvius; and, as the same result followed the injection of a coagulable fluid which could be traced, he was able to demonstrate that the effect was due to the tension of ventricular fluid. By cutting away the cervical muscles, the occipito-atloidean membrane may be laid bare, and its respiratory pulsations watched or recorded by the graphic method. When fluid was injected into the cranial cavity, this membrane became tense, pulsation ceased, and all the clinical phenomena of a shock manifested themselves; but, on perforating this membrane with a bistoury, an escape of cerebro-spinal fluid was followed by the disappearance of all the symptoms. In addition to these results, M. Duret was able to discover numerous small hemorrhages in the substance of the medulla, and in the subarachnoid spaces, principally at the base, but also over the convexity of the brain. He confirmed these results by directly operating upon the medulla by means of a

sound introduced through a small opening in the occipito-atloidean membrane, with which very limited contusions of parts of the medulla and the floor of the fourth ventricle could be caused. According to these experiments, therefore, it is to changes in the tension of the cerebro-spinal fluid, and not directly in the cerebral pulp itself, that we should refer the phenomena of concussion.—*British Med. Journal*, Dec. 29, 1877.

—

On Epidemic Conjunctivitis in Schools.

Dr. MANZ, of Freiberg, has a long communication in the *Berliner Klinische Wochenschrift* of September 8 and 10, on a form of epidemic conjunctivitis which has of late been very prevalent in schools in Germany. The most characteristic symptom of this epidemic is the presence in the conjunctiva of small clear vesicles, which are often the only indications of the disease; the active symptoms are congestion and swelling of the membrane. The disease runs a definite course, and is very contagious. It does not appear to give rise to corneitis, but cases occur which it is difficult to diagnose from ordinary granular ophthalmia. It is the follicular ophthalmia of recent writers.—*London Med. Record*, Dec. 15, 1877.

—

On the Classification of Inflammations of the Cornea.

Dr. OTTO BERGMEISTER writes at considerable length in the *Allgemeine Wiener Medizin. Zeitung* for the present year, on the classification of diseases of the cornea. He concludes by dividing corneal inflammation into superficial, deep, and choroidal. He includes in the former division phlyctenulæ, superficial ulcers, and pannus; in the second, deep ulcers, abscess, acute and chronic interstitial corneitis; and in the latter, kerato-iritis and so-called iritis serosa.—*London Med. Record*, Dec. 15, 1877.

—

Treatment of Ulceration of the Cornea.

The treatment of ulceration of the cornea, as practised at the Royal London Ophthalmic Hospital, Moorfields, varies necessarily according to the form of the disease, and also, to some extent, according to the experience of the surgeon under whose care the case happened to be. The yellow ointment (10 to 15 grains yellow oxide of mercury to the ounce) is found especially useful in the milder forms of ulceration, such as the majority of phlyctenular cases. The results of hot belladonna fomentation (60 grains to the pint), used every half hour and for several minutes at a time, are particularly brilliant in cases of ulceration with hopopyon. In cases of recent onyx with hopopyon much benefit was derived from cutting through the infiltrated corneal tissue. The hopopyon was generally evacuated at the time, and seldom reappeared. In none of these cases was the corneal wound reopened, as in Saemisch's operation. Where there was much pain, accompanied by increased tension, paracentesis gave temporary relief; but the most lasting benefit followed in such cases from iridectomy. Quinine internally, in doses of one or two grains thrice daily, seemed to have a most beneficial action in one or two cases of hopopyon, the pus disappearing more quickly during its administration, the other treatment remaining the same.—*Royal London Ophthalmic Hospital Reports*, Dec. 1877.

—

On Pterygium.

The *Berlin. Klin. Wochensch.* of November 12, contains the report of a lecture by Dr. H. SCHOLER on pterygium. The lecturer considers this affection the result of an adhesion of a fold of the conjunctiva to an ulcer of the cornea, and

hence, in many cases at least, a form of the healing process. He first came to this conclusion by observing a case of gonorrhœal ophthalmia, with an ulcer of the cornea 6 *millimêtres* long and 1.5 *millimêtres* wide, in which healing of the ulcer was effected by the swollen conjunctiva hanging over the upper edge of the cornea and coming into contact with the ulcer. It first filled the cavity and then united with the ulcer. He observes that, if this had not resulted, the eye would have been inevitably lost. Another case also occurred to the lecturer. He removed a pterygium, the effect of a burn, and, by so doing, set up a destructive ulcer of the cornea. Led by these phenomena to investigate the subject, he made a series of forty-five experiments on animals, rabbits, cats, and dogs. He first produced an ulcer on the cornea, and then covered it over with a strip of conjunctiva dissected from the eyeball, but left attached at its corneal margin, and kept in its place by catgut sutures; the epithelial surface being placed next the cornea. He next covered the exposed under surface of this bridge of conjunctiva by a second bridge of conjunctiva, with its epithelial surface turned outwards. Figures explaining the steps of the operation accompany the lecture. In the dogs, three in number, the adhesion of the conjunctiva to the cornea was permanent; but in the rabbits, after the healing of the ulcer, the slips of conjunctiva shrivelled and were thrown off. The physiological effects of covering the cornea were extreme vascularity of the covered portion and healing of the ulcer. The author leaves the effect of the conjunctival epithelium on the ulcer an open question. The mechanical effects were the protection of the wound from all external influences, and the continuous pressure exerted by the bridge of conjunctiva.

Dr. Scholer states that he has performed the operation sixteen times in the human subject, always in otherwise hopeless cases, with good results; indeed he had but one failure. He considers that this treatment is indicated in all cases of extensive ulceration of the cornea, either with or without perforation; and in cases of gaping wound of the cornea, with or without prolapse of the iris in fistula of the cornea, after paring the edges of the fistula. In cases of partial or complete staphyloma, perforating wounds of the sclerotic and in cystoid cicatrices, as only the superficial layer of the conjunctiva need be employed in this operation, no shrivelling of the conjunctival sac need follow it.—*London Med. Record*, Dec. 15, 1877.

—

Glycosuric Retinitis.

Dr. Stephen Mackenzie, Assistant Physician to the London Hospital, contributes to the *Royal London Ophthalmic Hospital Reports*, Dec. 1877, the report of a case of glycosuric retinitis, and accompanies it with the following brief but instructive review of our knowledge of the affection, in which he draws largely from Prof. Leber's excellent article, which was published in V. Graefe's *Archiv für Ophthalmalogie*, 1875, Bd. xxi. Abth. 3. Prof. Leber has collected eighteen cases of this disease, and added another, examined with great care and minuteness by himself.

Glycosuric retinitis rarely occurs until diabetes has been in existence for a rather prolonged period. It is generally ushered in by a more or less sudden and partial loss of sight, generally one eye suffers before the other, but in most cases the two eyes are eventually attacked, though often with unequal severity. Sometimes sparks are seen before the eye or eyes, at other times dark spots or muscæ are complained of, whilst in some cases disturbance of the perception of colours is noticed. Pain does not appear to be of common occurrence. Patients usually have a succession of attacks of disturbed and limited vision, and between the attacks the sight may be in a great measure restored. In some cases the vision is

almost completely lost in one or both eyes. On ophthalmoscopic examination the lens is usually observed to be quite transparent. The optic disk is sometimes found red, sometimes atrophic. The retina is generally cloudy; the vessels in many cases are distended and dilated, but in others, especially as regards the arteries, are smaller than natural. Scattered over the retina are apoplectic spots. These sometimes occur as round patches of various sizes, from large blots to punctiform ecchymoses; sometimes as linear streaks occurring in the course of the vessels; again at other times as linear streaks running in a direction at right angles to the vessels. Sometimes the hemorrhages are beneath the superficial layers of the retina, when the retinal vessels may be observed crossing the extravasation; at other times the hemorrhages are superficial, and obscure the vessels. The hemorrhages vary in tint according to their age. They often have a brownish-red hue. In addition to the hemorrhages white spots are seen scattered over the fundus. They are of various sizes and shapes. Sometimes they are of opaque whiteness, at other times they have a glistening appearance; those having the last character being generally smaller, and arranged in constellations. Such constellations are found grouped around the yellow spot, but are not limited to this situation. Occasionally longish white raised patches or folds, surmounted by retinal vessels, are seen. Some of the white patches are, doubtless, altered extravasations, for white patches are met with having red borders. Others would appear to be due to fatty degeneration of the retina. Though these appearances are seen with more or less clearness in most cases at some period of the disease, yet in other cases the details of the fundus are obscured by opacities in the vitreous. Sometimes on examination nothing can be seen but a red reflex; sometimes floating films can be detected, having a red or brownish colour; at other times the vitreous is simply turbid and cloudy. These opacities of the vitreous are obviously due to hemorrhages. They are found to occur coincidently with sudden limitations of the visual field, and they may be observed undergoing absorption.

The appearances in the retina are very like those met with in connection with Bright's disease. So close is the resemblance that some observers have passed them over as albuminuric changes, indicative of nephritis brought about by the diabetes. This opinion is favoured by the undoubted coexistence of albuminuria with glycosuria in the majority of the cases. Besides the presence of albumen, casts and blood have been found in the urine of some patients, who have, moreover, presented other evidences of Bright's disease, such as dropsy, hypertrophy of the heart, etc. Still there remain a certain number of cases where it is expressly stated on competent authority, that there was no albuminuria. Thus in two cases recorded by Desmarres,[1] one by Noyes,[2] and one by Haltenhoff,[3] there was no albumen in the urine; in some of the cases the urine was examined repeatedly with care. In Noyes's case the amount of urea was on several occasions estimated and never found deficient. It thus seems clear that the changes are not necessarily of an albuminuric origin. In some of the cases the sugar had been noticed to almost or entirely disappear before the retinal affection was observed. What seems further to distinguish the intraocular changes in glycosuria from those met with in Bright's disease, is the frequent complication of the former with hemorrhages into the vitreous. These occur equally in the cases where the diabetes is, and where it is not, complicated by albuminuria. Hemorrhages

[1] Traité théor. et pract. des mal. des yeux. 2d ed. Paris, 1858, t. iii. pp. 528–526.

[2] Trans. Amer. Ophth. Soc. 1869, pp. 71–75.

[3] Retinitis hemorrhagica bei Diabetes Mellitus. Zehend., Klin. Monats., 1873, xi. s. 291–298.

into the vitreous are of rare occurrence in pure cases of albuminuric retinitis, so far as I know. They appear to be frequent in glycosuric retinitis, and are recurrent.

As to the cause of the changes in the retina and vitreous, there remains a certain degree of obscurity. Prof. Leber, in discussing these, considers that they may be due in part to the diabetes, in part to nephritis caused by the latter, or to the two combined. But, as he says, how diabetes brings about the changes is quite unexplained, as moreover is the cause of the retinal affection in Bright's disease itself. But we find in by far the majority of instances of retinal disease that they are associated with lesions of other organs, or with altered blood conditions and disturbances of nutrition. From the analogy of Bright's disease, in cases where the lesion is not due to renal affection, one is led to look to other organs in search of an explanation. The brain and the heart suggest themselves as possibly at fault. As regards the brain, the retinal changes met with in diabetes differ from the neuritis or neuro-retinitis usually associated with cerebral disease. Cases are met with, it is true, where changes almost precisely like those encountered in albuminuria are associated with coarse lesions of the brain, such as tumour, etc., but these are rare. Still, there may be some connection between the diabetes and the retinitis. Either the brain lesion may be primary, and cause both the diabetes and the retinal affection; or, on the other hand, the diabetes may be primary, and cause both the retinal and the cerebral affections. These different classes of cases Prof. Leber has, he thinks, been able to distinguish in connection with the affections of the optic nerve in diabetes. Encephalic lesions, thus, do not appear to explain all the cases, and we turn to the heart in search of a cause. In the published cases, though the details in the records on this point are few, there is nothing to support the idea that the hemorrhages are connected with any heart affection, as in some forms of hemorrhagic retinitis. In my case there was no hypertrophy or other sign of cardiac disease. Failing to find any adequate cause for the retinal changes in any of the viscera, we are driven, as Prof. Leber says, to compare diabetes with other morbid conditions attended by a like alteration in the retina, such as Bright's disease, pernicious anæmia, hæmophilia, purpura, leuchæmia, etc. In all of these diseases there is an undoubted alteration in the blood, and, in some at least, changes in the vessels, in consequence of which diapedesis of coloured corpuscles and transudation of abnormally constituted albuminous matters take place. Such alterations are not limited to the retina, but are generally found also in the brain, spinal cord, and many other parts of the body. Their wide distribution is evidence in favour of a common origin in a blood dyscrasia. Dr. Dickinson has discussed very ably[1] the relation between the changes he finds in the nervous centres, and which resemble the appearances seen in the retina and the glycosuria. I cannot help differing from his conclusions, however, for Dr. Dickinson regards the peri-vascular extravasations and erosions of nervous structures as the cause of the symptoms in diabetes. To my mind the whole evidence points to the changes in the nervous system as well as those in the retina and other organs, being due to an altered condition of the blood. If the retinal changes found in diabetes are not due to an antecedent brain lesion, but are dependent on the same cause as the latter, then the fact that glycosuric retinitis only occurs when diabetes has been some time in existence, becomes valuable as enabling us to correctly interpret the changes found in the nervous centres. From what we know of the other diseases where similar changes are found in the retina

[1] Diseases of the Kidney. By W. Howship Dickinson, M.D. 1875.

and in the nervous centres, such as pernicious anæmia,[1] hæmophilia,[2] purpura,[3] leuchæmia,[4] ague,[5] the alterations in the nervous centres and in the eyes would appear to be coincident, rather than the latter sequential to the former. I think, therefore, we may justly infer that the perivascular hemorrhages, extrusions, excavations, and atrophies are the consequences and not the causes of the altered condition of the blood—I do not say the glychæmia—and bloodvessels incidental to diabetes.

—

On Miners' Nystagmus.

M. DRANSART read an interesting paper on this subject before the French Association for the Advancement of Science, at Havre, on August 24th. He alluded to the observations of Decondé, Léon, Noël, Nieden, Schroter, and A. von Graefe, and stated that the affection was scarcely recognized in France. The paper, which was based on twelve cases observed by the author, treated fully of the symptomatology, course, diagnosis, prognosis, etiology, pathology, and treatment.

Symptomatology.—The nystagmus consists of an involuntary and rhythmical oscillation of the eyeballs. The number of oscillations varies from 50 to 140 in the minute. The oscillations are vertical or horizontal; often the two forms of oscillation are combined, causing a rotatory movement of the globes. The oscillations are always synchronous, but they are not always equal in extent in the two eyes. In all cases where this inequality in extent of motion was observed, there was double vision. The oscillations are most readily excited when the line of vision is raised above the horizontal plane of the two eyeballs. Work in the pit, movements of the body, excite the nystagmus by causing this position of the line of vision. Darkness, a bright light, or anything which depresses the general health, also aggravate the oscillations; excess of spirituous liquors acts in the same manner, but during the drinking bout the nystagmus is less, the elevator muscles having more tone and being better able to preserve their equilibrium. There is nothing characteristic in the facial appearance of the patient. In all the cases observed there were marked anæmia, hæmic murmurs, disorders of digestion, stitches in the side, and sweatings. An intimate relationship between the general condition and the nystagmus was observed. In proportion as the anæmia improved under treatment the nystagmus also diminished, and *vice versâ*.

The patients complained of headache, with sensations of fulness and tingling in the eyeballs. Exactly the same symptoms are seen in asthenopia, diplopia, weakness of the internal recti, and paresis of the superior recti and the inferior oblique muscles. In all cases in which the investigation was made, the author found weakness of the superior recti and of the inferior oblique muscles. This weakness and the nystagmus went hand in hand; in proportion as the former became less, the latter also diminished. The accommodation is always defective; but, as the nystagmus becomes less the paresis of the ciliary muscle disappears. The refraction is natural; the fundus healthy.

During the attacks of nystagmus, vision is blurred. During the intervals, sight

[1] Immerman, Deutsche Arch. f. klin. Med., 1874, xiii. 209–244. Manz. Veränderungen in der Retina bei anæmia progres. Centralblatt. f. d. med. Wissensch., 1875, No. 40, s. 675.

[2] Wickham Legg. Report from Post-Mortem Room, St. Barth. Hosp. Rep., 1875. p. 64. Author. Med. Times and Gaz., March 10, 1877.

[3] Rec. Union Med., 1870, No. 48. Author. Med. Times and Gaz., March 3, 1877.

[4] Poncet. Arch. de Physiol. norm. et Path., 1874, p. 496, and most ophth. writers.

[5] Author. Retinal Hemorrhages and Melanæmia as Symptoms of Ague. Med. Times and Gaz., June 23, 1877.

is generally perfect. In one case in which the affection had lasted for a long time a decided sluggishness of the retina, with narrowing of the field of vision, was present. Some affection of the fundus was suspected, but the patient completely recovered.

Forms of the Affection.—The nystagmus is nearly always the same. There are two varieties. In the first, which comprises the great majority of cases, the oscillation in the two eyeballs is equal in extent; in the second form it is unequal, and there is always double vision.

Duration.—The affection may last for five or six years. As a rule, when recovery takes place, even at the end of that time, the sight is unimpaired. The author suggests the possibility of the sluggishness of the retina which was present in one of his cases continuing sufficiently long to become permanent.

The *Diagnosis* is easy. Even where there is some narrowing of the field of vision from sluggishness of the retina, the peculiar character of the oscillations, the absence of any lesion in the eye itself, and the occupation of the patient, will prevent mistakes.

Etiology.—The affection is almost confined to coal-miners. All other underground workers are exempt. The ages of the patients vary from 20 to 50 years. The affection is rare, 5 cases occurring amongst 10,000 coal-miners.

Pathology.—While admitting that the air of the mine and the darkness may in some measure predispose to the affection, the author thinks that the chief cause is the position in which the miner is obliged to keep the eyeballs while at work; he must constantly look above the horizontal line of sight. In this position the superior rectus and the inferior oblique muscles are always on the stretch. In consequence of this excessive work a "myopathy" is set up in these muscles, as a result of which they are unable to overcome their antagonists by a single effort; a repetition of short rapid contractions therefore takes place, causing the nystagmus. When the internal recti are affected, horizontal oscillations occur.

The author adds that he has in all cases seen this "myopathy" accompanied by anæmia, and deficient accommodation. And since these factors are always in direct proportion to the nystagmus, he concludes that they have some influence in its production.

Treatment.—M. Dransart recommends iron, quinine, strychnia, electricity, and work in daylight. The electricity ought to be applied chiefly to the muscles which elevate the eyeball, and to the internal recti.—*London Med. Record*, Dec. 15, 1877

—

On Syphilitic Diseases of the Eyelids.

Mr. H. Zeissl, in the *Allgemeine Wiener Med. Zeitung* for August 21 and 28, and September 4 and 11, gives a series of articles on syphilitic diseases of the eyelids. The author recognizes three forms of syphilitic diseases of the eyelids; primary induration, erythemata and papulose eruptions (syphilitic exanthemata), and gumma. He especially draws attention to the difficulty of diagnosis between gummata and primary affections, and remarks that gummata may be confounded with carcinomatous disease (?) or rodent ulcer. Papulose diseases are distinguished from gumma by the subsequent ulceration being superficial, whilst the ulceration following gummata in the eyelids is deep and destructive. The great peculiarity of syphilides in this region is their great malignity and the destruction of tissue which they cause.—*London Med Record*, Dec. 15, 1877.

—

On the Treatment of Anthrax of the Face.

Carbuncle and boil of the face have often proved fatal. Therefore many writers, amongst others Reverdin, have come to the conclusion that anthrax is an excep-

tionally serious affection. According to them the danger is due to the phlebitis of the veins of the face, which easily spreads to the cranial sinuses. Gosselin, however, and other surgeons do not believe in this great danger; on this subject Gosselin retains the same opinion, expressed by him on the occasion of a discussion on it at the Academy of Medicine in 1866. Partly inspired by this illustrious surgeon, M. BOUROTT, in his *Thèse de Paris*, 1877, endeavours to demonstrate that anthrax of the face, of the lips, as of other parts, is nearly always cured. The complication of phlebitis, which is the exception, is not necessarily fatal. Friction does not hasten cure, and exposes the patient to the risk of putridity, and consequently pyemia. For the majority of cases of anthrax of the face expectant treatment, without operation, is desirable. In serious cases there is, perhaps, necessity for cauterization.—*London Med. Record*, Dec. 15, 1877.

—

On Ranula in New-born Children.

In a paper read before the Moscow Medical Society and published in the *Moscow Medical Gazette* (abstract in *Central-Zeitung für Kinderheilkunde*, November 1), Dr. N. MÜLLER makes some observations on the occurrence of ranula in the newly born. The affection is so rare that its existence has been denied. Four cases have been recorded by Dubois, Bertin, Lombard, and Bland, and four others by Bryant. In the foundling hospital at Moscow, four or five cases of congenital ranula have been observed during the last seven years in about 80,000 children. Of these, Dr. Müller describes three. In a boy seven days old, a ranula as large as a pigeon's egg was found lying to the left of the frænum linguæ; in a girl three weeks old the swelling lay on both sides of the frænum, and attained the size of a large walnut before the end of the second month; and in a boy three days old there was a pyriform ranula, with the small end directed forwards, lying to the left of the frænum. The last case was apparently one of retention-cyst from obstruction of the orifice of Wharton's duct. In the first two cases the tongue was pushed upwards, and sucking was impeded. Puncture with a needle gave exit to a clear sero-mucous or (in the third case) watery discharge; the swelling then collapsed, but in a few days regained its original size. In the first case, tincture of iodine was injected; this produced suppuration, followed by cure of the ranula in three weeks. In the third case, the sac of the tumour, after having refilled, was cut away with scissors, with a successful result. In the second case incision was avoided, on account of the vascularity of the swelling, but a ligature was applied over it. The swelling did not disappear, but only became smaller. At the end of a fortnight, no change having taken place in the size of the swelling, and there being scarcely any discharge from the punctured joints, the ligature was removed. The ranula was still as large as a pigeon's egg, hard, and without fluctuation. An attempt to remove the contents by means of Pravaz's syringe was unsuccessful, as was also painting with tincture of iodine. Towards the end of the fourth month the child died of chronic enteritis. At the *post-mortem* examination there was found a cavernous cystic tumour as large as a pigeon's egg, the cavities of which were filled with a clear transparent fluid. The sublingual salivary glands were normal.—*London Med. Record*, Dec. 15, 1877.

—

Removal of the whole Tongue with the Scissors.

Mr. WALTER WHITEHEAD exhibited to the Manchester Medical Society (*Med. Times and Gaz.*, Dec. 15, 1877), a patient from whom he had removed the whole of the tongue, for epithelioma, by means of the scissors alone, without division of the symphysis or submental incision. The operation was thus performed: The patient, a woman, sixty-four, having been placed under the influ-

ence of chloroform, a gag was inserted, and the tongue firmly secured by a strong ligature passed through its substance near the tip. The operator, taking firm hold of this ligature with his left hand, divided successively the frænum and the sub-lingual tissues on each side. The tongue being then drawn well forward so that the epiglottis was brought fairly into view, the operation was completed by cutting through the base of the tongue, first on one side and then on the other. Two large vessels were divided: one of these was tied during the operation; the other, after bleeding for a little time, ceased spontaneously. Smart hemorrhage, however, took place after the removal of the patient, and it was found necessary to have recourse to the thermo-cautery. The operation was not followed by any constitutional disturbance, and though a fortnight had not yet elapsed, the patient appeared at the meeting perfectly well. The merit of this operation consists in its simplicity. Nearly sixty years ago Boyer described (*Traité des Maladies Chirurgicales*, tome vi.; Paris, 1818; page 392) an operation for epithelioma of the tip of the tongue, in which, by means of a pair of straight scissors, he removed a V-shaped portion about an inch in length, and united the flaps by sutures. But, although Mr. Whitehead distinctly repudiates any claim to originality, he is the first, so far as he is himself aware, to have demonstrated the practicability of removing the whole tongue by this simple method. With regard to the hemorrhage which occurred subsequently, he is quite convinced that this may be prevented in future by taking care to tie both ranine arteries during the operation, whether they give trouble at the time or not.

—

Treatment of Ischuria dependent on Hypertrophy of the Prostate.

E. BOTTINI proposes (*Langenbeck's Archiv*, Bd. xxi. p. 1) to treat the difficulty commonly experienced in passing water in cases of hypertrophy of the prostate gland by the galvano-caustic method. He recommends, according to the kind of the hypertrophy, either the galvano-caustic erosion or simple section of the enlarged lobule. The galvano-caustic destined for erosion, resembles the well-known prostate catheter of Mercier. It consists of two brass limbs attached to a rod, which are completely isolated from each other by a piece of ivory. Near the centre of the concavity of the instrument is situated the eroding apparatus, which consists of a U-shaped piece of platinum about 1½ inch in length, of which one branch is soldered to the posterior, the other to the anterior limb of the instrument. The connection with the battery is effected by means of a Middeldorpf's handle. As soon as the beak of the instrument is found to be freely movable in the bladder, which should be tolerably full, it is brought by a *tour de maître* through an angle of 180°, to such a position that the concavity looks directly backward, and is in contact with the hypertrophied parts of the prostate. These embraced as by a hook, can now be destroyed with the greatest precision, without, as autopsy has revealed, in any way damaging the surrounding parts. The thermo-galvanic incisor resembles a lithotrite, the male arm of which is composed of a platinum blade, which is attached to the staff by means of copper points, and glides in the glass appendix of the female arm. The points of the instrument must, when in use, be firmly pressed against the lobe requiring division. Neither the process of erosion nor of division occasions much pain, so that anæsthetics are not required. The urine soon begins to flow after the operation, however severe may have been the previous strangury. No bad results have hitherto followed the use of the instruments, and not even vesical catarrh has been observed, though the urine continues to be bloody for a little while. Galvano-caustic erosion is best adapted for partial and only slightly projecting swelling of the supra-collicular part of the gland. On the other hand galvano-caustic fusion

is more appropriate for cases where the whole gland is enlarged, or where particular lobes have undergone great hypertrophy. In such cases it is advisable to make the instrument press against the depression between two adjoining elevations, rather than against the projecting mass. The contra-indications against this mode of operating are inactivity of the detrusors, highly abnormal condition of the urine, and coincident extensive disease of the kidneys.—*Practitioner*, Nov. 1877.

—

On a Case of Imperforate Anus with Fistulous Opening into the Bladder.

The following case is recorded in the *Australian Medical Journal*, March, 1877. On April 11th, 1876, a male child, two days old, was brought to Mr. ROWAN, at the Melbourne Lying-in Hospital. On examination, an imperforate condition of the anus was found; there was no depression or mark to indicate its usual position. The abdomen was distended, tympanitic, and very tender. On the next day chloroform was administered, and an incision was made in the centre of the fundament; and, after cautiously dissecting to a depth of two and a half inches, the rectum was reached. An opening was made into it, and a large quantity of meconium and flatus escaped. The wound was kept open for a week with oiled lint, and a large bougie was subsequently passed every second or third day. Mr. Rowan shortly afterwards lost sight of the child, but it was brought back to him on the first of last February, in a worse condition than in the preceding April. The bougie had not been passed for three months, and for two months the child had passed nothing by the natural passage, all the motions escaping through the penis until the previous day, when the foreskin became so narrow that the child could not pass even urine without great difficulty. Examination showed that the anus was closed about an inch from the orifice, and revealed in addition complete phimosis. Circumcision was performed, and a few days later the former passage into the rectum was reopened and enlarged sufficiently to allow the finger to be passed in. The rectum was found filled with hard feces, which did not come away until the next day. After the operation, the finger was passed every day, and at the present time the canal seems perfect. Mr. Rowan thinks that a second operation would not have been required in this case, if he had made the opening large enough at first to allow the finger to be inserted easily. The fact that defecation occurred through the bladder and penis for two months, without causing cystitis or urethritis, is curious.—*London Med. Record*, Dec. 15, 1877.

Midwifery and Gynæcology.

Fracture of the Fœtal Skull by the Forceps.

The *Journal de Médicine et de Chirurgie Pratiques* records a case of considerable interest. It occurred in the wards of M. MILLARD in Paris. A rachitic woman had been in labour two days. Expulsive pains recurred at long intervals and were feeble in character. A midwife had ruptured the membranes twenty hours previously. The head was at the brim, which measured 3½ inches in the antero-posterior diameter. Forceps was applied, and after some minutes' traction the operator had a sensation of something giving way. At the same time the head became disengaged. It was, however, soon born, but apparently dead. It was plunged into a bath, and inspiratory efforts soon began. Its cry was scarcely perceptible. The left eyeball was pushed forwards and the conjunctiva

infiltrated with blood; the right half of the face was paralyzed; the arm and leg on that side were slightly convulsed. The end of the blade of the forceps pressed unduly on the fronto-parietal eminence. The bone was hard and had yielded at that spot. It was a comminuted fracture, and not a simple depression. A cephalæmatoma formed at the spot. The pericranium was incised, and the bones raised to their normal level. All the symptoms soon ceased, and the child made an excellent recovery.—*Lancet*, Dec. 15, 1877.

—

Treatment of Secondary Puerperal Hemmorrhage.

Dr. BAILLY, Prof. Agrégé of the Faculty of Medicine, contributes a paper to the *Bulletin de Thérapeutique* for September 30, on the efficacy of this method of treating secondary uterine hemorrhage, devised by Prof. Tarnier. By secondary hemorrhages he understands those which are produced from the second day to a month after delivery. These are generally due to a congestion of the uterus, usually spontaneous, but sometimes caused by the presence of a foreign body in the cavity, too early getting up, a violent effort, or vaginal injections injudiciously employed. Such hemorrhages are rarely dangerous, but they recur frequently and often obstinately, and cause great alarm to the patient. The ordinary measures for arresting them are far from being always successful, and are usually tedious; and, at Prof. Tarnier's suggestion, the author of this paper commenced in 1874 the trial of warm baths. The success attending the use of these has been so great that he publishes two of the cases in which he employed them. In the first of these the hemorrhage commenced only on the eighteenth day after delivery, in a woman of feeble habit of body. The uterus was enlarged and congested, and the hemorrhage, without being alarming, resisted all the usual hæmostatics during ten days. Prof. Tarnier now advised warm baths. The first of these greatly modified the discharge, and the second suspended it completely. Recurring at the end of thirty-six hours, it was definitively arrested by the third. The uterus gradually diminished in size, and at the end of a week the patient was able to get up. In the second case the hemorrhage came on only on the twenty-seventh day after delivery, the uterus being as much developed as at the third month. The liquid blood discharged was not very considerable, but it became continuous, and was accompanied by coagula. Ergot in different forms, and vinegar injections, having been tried in vain, a warm bath of half an hour at once suspended the discharge; and, on this recurring next day, a second bath completed the cure.

Although in possession of several cases in which their efficacy proved as complete as in these two, Dr. Bailly observes that their success is not always so prompt. He has always found them less efficacious at the commencement of the hemorrhage than when this had persisted for some time; but, as they produce no inconvenience at the earlier periods, they may also be then employed concurrently with other measures. The only objection to the method that he is aware of is, that at first it shocks the prejudices and alarms the patient. They should not be resorted to prior to the tenth day after delivery, in consequence of the fatigue and danger which their application might then give rise to. Care must be taken, also, that the temperature of the water (about 34° C. or 93° Fahr.) should be rather raised than lowered, all chilling being avoided. From twenty to thirty minutes is a long enough duration to secure the general revulsion sought for; and as one bath rarely proves enough, they may be repeated daily. Prof. Tarnier was induced to try the procedure in puerperal metrorrhagia in consequence of having observed its efficacy in the hands of M. Salgue, of Dijon, who successfully employed it in non-puerperal metrorrhagia; he adopted it for this form of hemorrhage after delivery, and has for many years recommended it.

In another number of the *Bulletin* (October 30) we find an article by Dr. CONSTANTIN PAUL, Professeur-Agrégé, upon the great utility of hypodermic injections of ergotine in various forms of metrorrhagia. The formula which he has employed has been—ergotine two grammes, water and glycerine of each fifteen grammes. The solution assumes the brown colour of the extract of ergot, and keeps well, not losing any of its activity in even three months after its preparation. In the fourteen cases in which he has employed this, Dr. Paul has found it succeed in almost a marvellous manner; the hemorrhage, which was always severe and often dangerous, having in all been arrested in sixteen minutes at latest, and in several much earlier. The patients were either the subjects of more or less advanced cancer of the uterus, or in the puerperal condition. The advantageous action of ergot, taken internally, on uterine hemorrhage, has been long known; but on comparing this with the effect of hypodermic injection, the latter proves of much greater value. The time required for the operation of ergot varies from a quarter of an hour to thirty-six hours; while ergotine arrests the hemorrhage in from five to ten minutes; and in hemorrhages time is everything. Not only is the action of powder of ergot less rapid than the injection, but it is also less constantly efficacious, three or four doses being sometimes required. Ergot in powder also always gives rise to colicky pains, of which the patients complain much; but this is not so with the ergotine. The injection is not very painful, and does not produce any local inflammation, sometimes only leaving a slight hyperæsthesia at the point of insertion. So employed, intolerance of ergotine has never been noted. As Prof. Gubler has already observed, it is most remarkable that while a dose of even four grammes taken by the mouth is very doubtful in its action, a dose sixty times less, given by injection, exerts so marked an effect. Certainly there is far greater discrepancy in the doses required, according to the mode of administration, than is observed with regard to most medicinal substances. In the cases related by Dr. Paul in his paper, an injection of sixty-six milligrammes of ergotine arrested the hemorrhage in from five to ten minutes.—*Med. Times and Gaz.*, Dec. 8, 1877.

—

On the Management of the Nipples.

Dr. SAMUEL SLOAN, Assistant Physician-Accoucheur to the Glasgow Lying-in Hospital, describes (*Obstetrical Journal of Great Britain*, Jan. 1878) his treatment of sore nipples as follows:—

My plan, when the nipples have unfortunately felt sore, is to carefully wash off the milk, after the child quits the breast, with tepid water; then to wash the nipple with weak spirit lotion and glycerine to prevent drying; or, if the excoriation should be more advanced, some astringent is added, as tannin or a weak solution of nitrate of silver. To protect the nipples from friction against the dress, *if the part be not inflamed*, I order a properly constructed nipple-shield, and occasionally apply a mild ointment, as oxide of zinc, to protect the skin from the repeated application of the watery solutions. If the nipple be retracted, or in any way difficult for the infant to seize, I advise that it be gently drawn out by the breast-pump, of which the best is the green ball breast-exhauster; and, if still painful when the child is applied to the nipple, an artificial glass nipple with India-rubber teat must be *at once* applied. Of this latter apparatus I would add that it is of the utmost importance to secure one of a proper shape; as, if too narrow, constriction of the nipple takes place, causing occlusion of the lactiferous ducts; and, if too long, so much of a vacuum is produced between the extremity of the nipple and the mouth of the child that it is generally impossible for the child to draw the milk into the teat. The teat also ought not to be long, as it then only serves to tickle the fauces of the child. It is thus an important matter,

in ordering one of Maw's glass nipple-shields, to secure a proper fit for the particular case; as it is advisable that the child's temper should not be tried in vain attempts to extract the milk. Besides this the teat ought to be carefully cleansed from the composition which covers and impregnates it, as the smell and taste of this material may disgust the child so much that it may refuse to make another attempt. This unsavoury material may be removed by soaking the teat in whisky and then washing it. Before applying the child to this artificial nipple the latter ought to be filled with some of the mother's milk; or, if this is not practicable, with sweetened milk and water. Some children take so kindly to this artificial nipple that it is difficult, after being long accustomed to it, to persuade them to use the mother's nipple again. But, should only one nipple be affected, this will not readily happen, *especially if the artificial teat be small enough*. Of artificial nipples there is a great variety, but to me the one described above and sold by Maw seems to most efficiently protect the nipple; though the shield and teat in one piece, made of India-rubber or other soft material, as softened ivory, will make suction easier for a weakly child, if it can be borne by the mother. There is, however, with its use considerable compression of the nipple by the child's gums. A good artificial nipple has yet to be devised. If the nipple-shield can be borne, and the child can be coaxed to use it, there will be little difficulty in curing the nipples on general principles. In the event of excoriation of the nipple continuing after this attempt with the artificial nipple, and ulceration setting in, there remains no course but to take the child at once from that breast till the part is sufficiently restored to permit of its reapplication. And here the careful use of a good breast-exhauster is important. For, should the breast become engorged whilst the nipple is tender, there is every prospect of abscess of the breast taking place. In my experience, no matter how tender the nipple may be, a careful regulation of the compression of the ball by the hand, with occasional relaxation of the nipple to prevent occlusion of the lactiferous tubes, will always result in the almost painless removal of the milk; though, should the breast be hard and yet no milk come, gentle friction at the periphery of the breast may be required to expel the milk from the gland proper into the lactiferous reservoirs under the areola, whence the breast-exhauster will readily withdraw it. It will now be a comparatively easy matter to heal the nipple, since the first step in treating a disease is to remove the cause; the impracticability of doing this rendering the treatment of the nipple so unsatisfactory. If there be ulceration, careful washing and drying of the nipple, and the application of the solid nitrate of silver *to the part affected only*, will generally suffice. This treatment by a "tough caustic point" is, when combined with the use of the nipple-shield, a certain cure of the fissures which occur around the base of the nipple. If the part be inflamed, sedative applications or poultices will of course be the first indication. Should the affection of the nipple arise from the aphthous condition in which we sometimes find the child's mouth, the application of borax and glycerine, or chlorate of potash dissolved in glycerine, is the proper treatment for the nipple as for the mouth. I think it wise to avoid, in the selection of remedies for the nipple, any medicine which may injure the child, if sufficient care be not taken in its removal before the next application of the child to the nipple. Perhaps it may suffice to point out, regarding some recent investigations which have been made as to the quality of the milk as a factor in the production of sore nipples, that, where one nipple only is affected, this condition of the milk can have only a very limited effect as an exciting cause.

It is pleasing to pass from the too often disappointing treatment of tender nipples to consider the possibility of having the nipples perform their natural functions without the usual morbid results. In the lower ranks, from which a maternity

hospital generally derives its patients, tender nipples are rare, since the habits of this class of society, and the more or less exposure of the nipples, in their case, to the tonic effects of atmospheric influence, will give less sensitive, because more natural, nipples. I have made inquiry at our hospital here, and I find that, out of every twenty women confined in it during the last two years, not more than one has suffered from sore nipples. This, it will readily be acknowledged, is a result much more favourable than we have in private practice. It has been customary to order, as a prophylactic, weak spirit and water, or other mild astringent, but I have seen no evil result from the application of stronger astringents. As an astringent, however, especially if strong, is likely to cause a hardening only, and not a toughening of the nipple, we may have this organ cracking as soon as the outer film of hardened cuticle is removed, on the first application of the child to the breast. To obviate this I am in the habit of ordering the admixture of glycerine with the astringent, and the occasional application of some fatty substance, as lard. The selection of the particular astringent is, of course, of importance; but the thoroughness with which it is applied is more so. The solution I generally order is made up thus: A large teaspoonful of dry tea is put into a two-ounce vial, one ounce of brandy and a quarter of an ounce of glycerine (Price's) are added; and, after a few days, with occasional shaking, the solution is ready for use. For two or three months previous to parturition the nipples should be thoroughly washed every night with cold water and glycerine soap, dried, and the above solution carefully brushed over the nipple, but especially around the base and into the apex. This is left on all night, and, in the morning, the lard is rubbed well in. I have frequently used glycerine of tannic acid, but have come to regard it as not sufficiently powerful.

During this treatment the dress ought to be loose; and, if the nipples are at all retracted, they ought to be drawn out occasionally by suction or with the fingers and thumb. A circular piece of some unirritating material, with a hole in the centre, might be used in severe cases.

When the child is born, and before I leave the house, I examine the nipples and breasts. If the latter are flaccid I would prefer not to put the child early to the nipple; and, when the milk has appeared, I advise the application of the child at intervals of not less than two hours, and to both nipples at each application, giving careful instructions against letting the nipple remain in the child's mouth after it has emptied the breast, and especially against allowing it to sleep at the breast. The nipple is to be moistened with water or saliva before applying the child to it; and, when the infant quits the breast, the nipple should be washed with a mild astringent and antiseptic solution with glycerine. The mixture I prefer is as follows: A teaspoonful each of whisky, tincture of arnica, and Price's glycerine in a wineglassful of cold water. The nipple, as soon as the infant leaves the breast, is washed with this and partially dried, and a nipple-shield at once applied to protect the nipple from friction against the dress. One of the best nipple-shields is Wansbrough's; but, after using it for some time as it is sold, I had to discard it, on account of its keeping the nipple, in some cases, too moist, and softening the cuticle; certainly a great objection to its use. To prevent this, however, it is only necessary to pierce it *over the whole of its extent* with a large needle from within outwards; and, should the nipple be scalded from insufficient piercing the rectifying of this error will suffice of itself to remove the inconvenience. I have little experience of other nipple-shields, though they may be made from a great variety of materials, and some of them might prove more convenient than Wansbrough's, to which another objection is that, though it should fit the nipple when first applied, the heat of the breast afterwards softens it; it then becomes corrugated and flattened, and thus affords little protection to the nipple. These objections could not apply to vulcanite nipple-shields, one of which, for trial, I have

had prepared for me and pierced by Mr. Joseph Hilliard. Though used, I believe, in America, I do not find that they are known to any extent in this country. In using nipple-shields it is advisable to have them suspended round the neck by a ribbon; and care should be taken that they are frequently washed with soap and water; and if ointments are being used with them, a strong tooth-brush will be found serviceable to cleanse out the holes. Believing as I do in the importance of protecting the nipples in any prophylactic treatment, I advise, where the expense of good nipple-shields is a consideration, the use of a small circular piece of gutta-percha tissue, also pierced. But I suspect that, in such cases, unless care be taken to keep the gutta-percha, and the part over which it is applied, clean, pustules may form which might lead to inflammation in the deeper portion of the breast. But this need not happen; and patients have often informed me that the simple gutta-percha tissue thus applied is a considerable relief, especially when the nipples are tender. To supply the natural unctuous matter of which sucking deprives the nipple, I order the application of some simple ointment, as fresh oxide of zinc; glycerine soap and tepid water easily removing it before the child goes to the nipple.

The foregoing measures, if carefully carried out, I find, as a rule, sufficient to prevent tender nipples in cases where, from the sensitive temperament of the patient, such would probably have resulted; and that this is the case is, I think, borne out by the fact that, when the nurse leaves, and the prophylactic treatment of the nipples is more or less neglected, instead of being gradually left off, I have noticed in many cases that tender nipples begin, and this after an interval of four or more weeks of immunity from sore nipples.

To those who have been disappointed in the results of their treatment of sore nipples, and who have not put the prophylactic treatment to the test, I would strongly recommend a fair trial of the plan which I have briefly sketched.

Pathology and Treatment of Membranous Dysmenorrhœa.

Dr. JOHN WILLIAMS recently read a paper on this subject before the Obstetrical Society of London (*Med. Times and Gaz.*, June 23, 1877). It consisted of a narrative of fourteen cases of the affection, twelve of which had come under the author's own observation, a microscopical description of the membranes expelled, the method of treatment adopted in the cases, and conclusions drawn from the above data as to the nature of the affection and its treatment. It was maintained that in the study of the pathology of membranous dysmenorrhœa regard must be had to four things: (1) the history of the patient; (2), the structure of the product expelled; (3) the state of the uterus; and (4) the normal process of menstruation. The theories advanced respecting the pathology of the affection were briefly noticed. The post-mortem appearances met with in the uteri of two women suffering from the disorder were described, and the paper ended with the following conclusions: 1. The dysmenorrhœal membrane is not the product of conception, but the decidua ordinarily shed as *débris* with every menstrual epoch. 2. It is expelled as a whole, or in masses, in consequence of an excess of fibrous tissue in the wall of the uterus. This excess is due to imperfect evolution at puberty, imperfect involution after parturition, or abortion, or is the product of acute inflammation. 3. The membrane is neither the result of an ovarian congestion nor of a hypertrophy of the ordinary decidua. 4. The chronic inflammation present is the result of the monthly expulsion of the decidua in masses from the uterus, and plays an accidental part only in the formation of the membrane; the inflammation, may, however, be independent of the expulsion of the membrane, but it has no causal relation to the formation of the latter. 5. Sterility is not necessarily associated with the affection, but is the result of the condition induced by the expulsion of the membrane in masses from the uterus—inflammation of

the uterus and ovaries. 6. The membrane may be expelled without pain. 7. Inflammation of the uterus greatly aggravates the suffering caused by the passage of the membrane along the cervical canal. 8. Great relief may be obtained by curing the inflammation of the cervix, though the membrane continues to be expelled every month. 9. In order to effect a cure the structure of the whole of the body of the uterus must be altered; the excess of fibrous tissue must be removed.

In the discussion which followed, Dr. BARNES stated that he attached great importance to our knowledge of the fact that the membrane is passed by virgins. We have no right to call anything the product of conception unless traces of the ovum be found. There are three kinds—one the typical; others having a fibrillar character without evidence of mucous membrane; others, clots, decolorized. It is borne out that it is due to excess of fibrous tissue in the uterine wall. This explains the difficulty of cure. Some are undoubtedly due to contraction of the os externum. This explains the congestion and enlargement of the uterus and excess of fibrous tissue in its walls. There is a general condition of the system in almost all cases; nervous and vascular tension and improvement may be obtained by making a free outlet for the menstrual blood.

Dr. GALABIN agreed in the main with Dr. Williams's account of the pathology of membranous dysmenorrhœa, but the evidence was not conclusive as to his view of its causation. The evidence against hypertrophy of the decidua was not conclusive, and it had not been finally proved that the mucous membrane was entirely removed during menstruation. Dr. Leopold had described a uterus on the third day of menstruation, in which there was some thickness of mucous membrane; and Dr. Galabin had found a fair thickness of mucous membrane six days after the commencement and two days after the cessation of menstruation. He had constantly found shreds of membrane in the discharge during the first two days, and thought that many cases might partake of the character of membranous dysmenorrhœa though not recognized as such.

Dr. WILLIAMS, in reply, said that he regarded membranous dysmenorrhœa as a type of a very large number of cases of painful menstruation, but that they were not recognized as such because the menstrual discharge was not examined. In the great majority of cases of dysmenorrhœa in which he had an opportunity of examining the discharge he had found shreds of the decidua. So far he agreed with Dr. Galabin. On the other hand, he differed from Dr. Galabin with regard to Dr. Leopold's cases, and believed that the weight of evidence derived from recent research went to show that the decidua (not the mucosa) was entirely removed during menstruation. Perhaps the strongest evidence in favour of this view is that while portions of the old decidua still remain attached to the surface of the uterus, a new decidua is seen developing immediately beneath it.

On the Value of Sponge-Tents in Obstetric and Gynæcological Practice.

Dr. KRONE of Hanover relates, in the *Berliner Klinische Wochenscrift*, October, 1877, several cases of placenta prævia, in which, previously to delivery, he arrested the hemorrhage whilst dilating the os uteri with sponge-tents. He has also employed them with success in the hemorrhage, resulting from a partially expelled ovum. Dr. Krone does not share the common fear that sponge-tents are liable to cause septicæmia. In cases of sterility and dysmenorrhœa, depending on stenosis of the cervical canal, he dilates the contracted os uteri by means of sponge-tents. This mode of procedure has been followed by impregnation. As a proof of the harmlessness of sponge-tents, he relates a case in which, in removing a tent, he broke it, and left half in the uterus, where it remained for four months, when it was expelled, and the sterility for which it had been applied was cured.—*London Med. Record*, Dec. 15, 1877.

CONTENTS.

Anatomy and Physiology.

The Structure of Tactile Corpuscles. By M. Ranvier 49
On a Case of Inversion of the Heart. By Dr. Luigi Paganuzzi 49

Materia Medica and Therapeutics

On the Absorption of Carbolic Acid and its Recognition in Organic Liquids. By Dr. Ignazio Tortora 49
On the Elimination of Mercury. By Dr. E. W. Hamburger 51
Subcutaneous Injections of Chloroform. By M. E. Besnier 51
The Effect of Alkalies. By M. Mialhe. . 52
Employment of Pilocarpin in Childhood. By Prof. Demme 52
Continuous Baths. By Dr. Hans Hebra . 53
On the Vermifuge Action of Pumpkin-seeds. By Dr. Fedeli 54
Mixed Narcosis. By Prof. Thiersch . . 54
On the Venous Pulse produced by Chloroformization. By Dr. Noel 55
On the Mechanical Action of Baths of Compressed Air. By Dr. C. Forlanini . . 55

Medicine.

The Pathology of Inflammation 56
Use of Salicylates in the Treatment of Acute Rheumatism 58
The Use of Salicylates in Typhoid Fever . 60
On a Case of Facial Hemiplegia. By Dr. Lachowicz 62
On Spinal Paralysis in Adults. By Dr. Gottfried Salomon 63
Syphilitic Affections of the Nervous System. By Dr. Julius Althaus 69
Some Affections of the Nervous System dependent upon a Gouty Habit. By Dr. J. Russell Reynolds 72
On Inhalation of Salicylic Acid in Whooping-Cough. By R. Otto 75
On a Case of Cutaneous Emphysema following the Opening of a Pulmonary Cavity into an Intercostal Space. By Dr. G. Galli 75
Thoracentesis. By Dr. Dieulafoy . . 75
Perforation of the Aorta by a Foreign Body. By Dr. Aschenborn 76
On Jaborandi in Cardiac and Renal Dropsy. By Dr. Purjesz 76
On the Diuretic Action of Blatta Orientalis in Scarlatinal Nephritis. By S. Unterberger 77
A Case of Paralysis of the Diaphragm with Peculiar Laryngeal Symptoms. By Dr. Edward Long Fox 77

Surgery.

The Clinical Aspect of Central Localization. By M. Tillaux 78
The Pathology of Concussion. By M. Duret 80
On Epidemic Conjunctivitis in Schools. By Dr. Manz 81
On the Classification of Inflammations of the Cornea. By Dr. Otto Bergmeister . . 81
Treatment of Ulceration of the Cornea . 81
On Pterygium. By Dr. H. Scholer . . 81
Glycosuric Retinitis. By Dr. Stephen Mackenzie. 82
On Miners' Nystagmus. By M. Draussart . 83
On Syphilitic Diseases of the Eyelids. By Mr. H. Zeissl 86
On the Treatment of Anthrax of the Face. By M. Bourott 86
On Ranula in New-born Children. By Dr. N. Müller 87
Removal of the whole Tongue with the Scissors. By Mr. Walter Whitehead . 87
Treatment of Ischuria dependent on Hypertrophy of the Prostate. By E. Bottini . 88
On a Case of Imperforate Anus with Fistulous Opening into the Bladder. By Mr. Rowan 89

Midwifery and Gynæcology.

Fracture of the Fœtal Skull by the Forceps. By M. Millard 89
Treatment of Secondary Puerperal Hemorrhage. By Dr. Bailly 90
On the Management of the Nipples. By Dr. Samuel Sloan 91
Pathology and Treatment of Membranous Dysmenorrhœa. By Dr. John Williams . 94
On the Value of Sponge-Tents in Obstetric and Gynæcological Practice. By Dr. Krone 95

Published Monthly, price $2.50 *per annum, free of postage.*

Also, furnished together with the AMERICAN JOURNAL OF THE MEDICAL SCIENCES *and the* MEDICAL NEWS AND LIBRARY *for* SIX DOLLARS *per annum in advance, the whole free of postage.*

HENRY C. LEA, Philadelphia.

THE MONTHLY ABSTRACT
OF
MEDICAL SCIENCE.

VOL. V. No. 3. For List of Contents see last page. MARCH, 1878.

Anatomy and Physiology.

Sulpho-Cyanides in the Urine.

According to the recent independent experiments of GSCHEIDLEN and MUNK, the urine of man and other mammals constantly contains sulphocyanic acid, which gives with ferric chloride, in urine previously acidified with hydrochloric acid, a reddish coloration. The precipitate which nitrate of silver throws down in ordinary urine is a mixture of chloride and sulphocyanide of silver, and if it be suspended in water decomposed with sulphuretted hydrogen, and filtered, the filtrate gives the ferric chloride reaction distinctly, even if only 200 cubic centimetres of urine be analyzed. Human urine contains about 0.0225 sulphocyanic acid in 1000 cubic centimetres in the form of a sodium salt, and 0.0211 NaCNS was found in the same quantity of rabbit's urine (Gscheidlen). Munk estimates that one litre of human urine contains 0.11 NaCNS. The source of the sulphocyanide appears to be the saliva, which always contains sulphocyanide of potassium, and Gscheidlen could detect none in the urine of a dog whose salivary secretions had all been prevented from entering the digestive tract by means of external fistulæ. It is a remarkable fact, observed by Munk, that in spite of the great solubility of the sulphocyanides, the urine contains sulphocyanic acid in abundance seven or eight days after a dose of sulphocyanide of ammonium. Dr. Thudichum has endeavoured to prove that Gscheidlen's method of extracting sulphocyanogen from the urine in combination with lead (*Pflüger's Archiv*, xiv., s. 401), is faulty; but it appears, from Gscheidlen's reply to his criticisms, that Thudichum did not observe the necessary cautions in repeating the former's experiments, and that there is no reason to doubt their accuracy.—*Med. Times and Gaz.*, Dec. 22, 1877.

—

On the Cause of the Respiratory Variations of Blood-pressure in the Aortic System.

FUNKE and LATSCHENBERGER (*Pflüger's Archiv*, Band xv.; abstract in *Academy*) call attention to the varying flow of blood through the pulmonary capillaries, determined by the varying expansion of the lungs. Every inspiratory expansion of these organs, whether it be attended by a *plus* or *minus* degree of intrathoracic pressure, must, by stretching the walls of the air-cells, lengthen and narrow the individual capillaries, and thus diminish their collective capacity. Conversely, the expiratory collapse of the air-cells must widen the capillaries and augment their capacity. These changes must influence, not merely the flow of blood between the two sides of the heart, but the tension in the aorta likewise. The primary effect of inspiration will be to raise the latter by squeezing the blood out of the lungs in the direction of least resistance—into the left auricle—and thus feeding the left ventricle with more blood. Its secondary effect will be

to lower arterial tension by checking the current of blood through the lungs. Expiration will primarily lower arterial tension by lessening the supply of blood to the left auricle; its secondary effect will be to raise it by facilitating the flow through the pulmonary capillaries. These *à priori* considerations were put to the test of experiment, and a long account of the investigation is given. Its results confirmed the anticipations of the authors in every particular. They conclude that the essential cause of the respiratory variations of arterial pressure is always to be sought in the varying capacity of the pulmonary capillaries due to the alternate expansion and contraction of the lungs. In artificial, as in natural, breathing, the inspiratory rise of tension is owing to the blood being squeezed out of the lungs into the left heart; the expiratory fall, to the retention of blood in the diluted pulmonary capillaries. In natural breathing, the respiratory variations of intrathoracic pressure of course contribute—but only as accessory elements—to the general result; the same may be said of variations in the rate of the heart's action.—*London Med. Record*, Jan. 15, 1878.

Materia Medica and Therapeutics.

Physiological and Medical Effects of Alcohol.

The Third Report of the Special Committee of the House of Lords on Intemperance lays before us the evidence of two eminent physiologists and of one practising physician; and the first thing which strikes us is the unanimity with which all three speak of the usefulness of alcohol in medical practice. These three witnesses are also agreed that persons in health are better without the use of alcohol; although neither Dr. Lauder Brunton nor Dr. Burdon Sanderson went so far as to say that a small quantity of alcohol was, generally speaking, absolutely injurious. Thirdly, we observe in this evidence a repetition of the statements that alcohol is injurious in excessive cold, and as a rule, in excessive heat also. The men who have served in Arctic expeditions have, of their own accord, preferred hot coffee to hot rum, finding that the former supplied heat which really enabled them to withstand the cold, while the latter supplied only a very temporary and evanescent stimulus, which, on passing off, left them worse than they were before. As regards the use of alcohol in excessive heat, Dr. Brunton refers us to the Ashantee expedition. During the march, liquor was found to be disadvantageous; but after the march was over, when the men sat down at their camp-fire for their evening meal, they found the advantage of a little rum; because the rum stimulated their stomachs, and assisted them to digest their food. But it was noticed that the young men did not care so much for the rum, often not taking their full allowance; while the older men, in whom the processes of life are less active, wanted all their own allowance, and would take also the allowance of a neighbour, if he would give it to them.

As to the question, whether alcohol is utilized in the system, there is also practical agreement; and it seems to be now pretty generally accepted that an average man will utilize in his economy a variable quantity of alcohol, the average amount being about two ounces daily. A larger quantity than this will indicate its presence by the elimination of alcohol in the breath, and in other ways. Lastly, with some slight differences of detail, the medical witnesses are practically agreed as to the effects of the abuse of alcohol. Sir W. Gull's statement is, that its abuse produces disorders of the liver. From disordered liver, we get disordered blood,

and, consequent upon that, we get diseased kidneys and diseased lungs. Then we get diseased heart and nervous system. The general effects are no doubt, first, congestion of these organs; next, increase of their fibrous tissue, which presses upon the secreting cells and induces general atrophy and fattiness.

Respecting the conditions in which the administration of alcohol is useful, we come upon a slight difference of opinion between Sir W. Gull and the other witnesses, he preferring to name as a sedative what they characterize as a stimulant. We think that alcohol will act as one or other, according to the condition in which it is administered. In the case which Sir W. Gull supposes, of very high and uncontrollable delirium in early typhoid, alcohol no doubt calms and quiets the patient, and this action may fairly be called sedative. Similarly, in the later high fever spoken of by Dr. Brunton, alcohol may be useful to lower the pulse and the temperature. There is, however, this difference between these two actions, that the former is not generally obtained until a rather large quantity of alcohol has been administered, while the pulse and temperature are generally lowered by smaller quantities. In the latter case, the reduction of pulse and temperature is probably induced by the combustion of the alcohol itself in place of that of the tissues. The delirium is calmed, on the other hand, probably by clouding of the intellectual powers, and by the soporific effect of the alcohol on the nervous tissues. These two actions may be called sedative if the ultimate effect of the alcohol, rather than its mode of action, be taken into account. The stimulant action, on the other hand, of which Dr. Brunton and Dr. Burdon Sanderson spoke, may be looked upon as the primary action of alcohol; that, namely, of filling the capillary vessels by removing or diminishing the power of the sympathetic system of nerves. It is by such an action on the stomach, no doubt, that the feeble digestion to which Dr. Brunton referred can be improved or stimulated; and it is by inducing this action that alcohol sometimes acts as by magic upon the pain of anæmic or spanæmic neuralgia or headache, or that it prevents from stopping the exhausted heart beating feebly in the termination of typhus fever, before convalescence is fairly established. This being so, it seems to come to this, that the sedative action spoken of by Sir W. Gull is only an increased quantity of what is generally called the stimulant action of alcohol. The latter is obtained by the administration of so much alcohol as will somewhat paralyze the sympathetic nerves and congest the capillaries; the former, or sedative action, is obtained by still more paralyzing the sympathetic system, and also to some extent by substituting the consumption of alcohol for that of the patient's own tissues. Inasmuch, however, as both actions are obtained by paralyzing the nervous system, it might be well, as Dr. Gull proposes, to consider alcohol as a sedative rather than as a stimulant; and we are inclined to think that the use of this term might be of some advantage to the public by keeping before them the mode of action of alcohol.

While we are upon the so-called stimulant action of alcohol, we wish to draw attention to a very extraordinary statement made by Dr. Burdon Sanderson. He proposes, very justly, to administer small quantities of alcohol when the temperature (and the pulse) sink below the normal; and he says that the moment the temperature sinks below the normal, danger to life ensues. Again, he says that a temperature of from 96 to 98 deg. would be a really dangerous lowering of the temperature. We cannot help recording our surprise at these statements, especially when they are made by so eminent an authority. Every medical man who has given attention to the matter knows that a fall of temperature to 97 deg., or even to 96 deg., so far from being a dangerous condition and one threatening collapse, is actually the normal condition in convalescence from fevers in general, and probably also from the acute inflammations. In some fevers, such as relapsing

fever, it is the rule, one may say, for the temperature to sink to 95 deg. in the course of the disease, while 94 deg. is not at all an uncommon limit of subsidence. There are even exceptional observations taken in relapsing fever, where the thermometer has registered 92 deg. Now, as is well known, relapsing fever is one of the least fatal forms of specific fever, death practically never taking place excepting in the extremely aged and the extremely young. It is evident, therefore, that mere lowering of temperature ought not to have the importance attached to it which is stated in this evidence. Like other symptoms, its gravity must be determined by its concomitants.—*British Med. Journal*, Dec. 15, 1877.

—

On the Therapeutic Use of Iodoform.

Mr. BERKELEY HILL, Prof. of Clinical Surgery in University College, contributes to the *British Medical Journal* (Jan. 26, 1878) the following note, on the therapeutic use of iodoform.

Locally, iodoform, as a dry powder, brushed lightly over the surface with a moistened camel-hair pencil, has been for three years my almost invariable treatment of venereal sores, especially the local chancre. During the last few months, I have often substituted for the dry powder an ethereal solution (one part of iodoform in six or eight of ether). The sore is touched or dabbed with a pencil dipped in the ethereal solution, according to its size and depth, lightly or copiously. The ether quickly evaporates, leaving a thin pellicle of iodoform, that as effectually stays the spread and produces healing of chancres as does the more copiously applied dry powder. Thus the surface is covered more exactly, and the disagreeable smell of the iodoform is too faint to attract attention. The sore is well washed with water and dried before the iodoform is applied, and the surface is lastly protected by a bit of dry lint. When the secretion is abundant, the dressing must be renewed twice daily, but in three or four days the amount of discharge becomes so scant that one dressing *per diem* suffices.

In this way, venereal sores heal quickly. Pain subsides at once; the sore is well in a week or ten days, and the chances of consecutive inoculation or bubo are greatly lessened. In a very few cases, the application of iodoform gives momentary smarting, which is very bearable; even the ethereal solution does not hurt, and usually the patient declares the application to be quite painless. I avoid using iodoform on inflamed sores, or on simple granulating wounds; but indolent non-specific ulcers are rapidly improved by iodoform locally applied.

Lately, I have given iodoform internally with great benefit. It acts more rapidly than potassic or other iodides, and judging from experience thus far, is as readily borne as are those salts. I have given it in one-and-a-half-grain doses as a pill with extract of gentian. Three pills are given each day, increasing gradually till eight or ten pills are taken in twenty-four hours.

I have used it with excellent effect in cases of obstinate syphilitic ulceration of the tongue, where the dorsum is covered with rugged thickened epithelium, which is constantly splitting into deep fissures, and thus causing continual severe pain to the patient. This affection is often quite insensible to mercury, alkaline iodides, or arsenic—the remedies usually beneficial. In three of these obstinate cases, where I had been treating the patients at intervals for years with the remedies just mentioned with little lasting benefit, iodoform-pills have acted like a charm. Pain, immediately lessened, in two or three days ceased wholly; and the fissures healed rapidly, while the tongue soon shrank to its natural size. How long the relief will endure, time alone will show; but any interval of only apparent cure of this very painful affection is a great blessing to the sufferer, and time is given for the exhibition of mercury if required. In December last, I had under my

care in University College Hospital a patient with ulcerated and protruding gumma of the left testis, non-ulcerating gumma of the right testis, and ulcerating gummata of the skin over the upper end of the right tibia, with other syphilitic affections. Iodoform was administered in pills, and water-dressing applied to the ulcers. Rapid healing and subsidence of the swellings took place, notwithstanding that, when the dose of eight pills *per diem* had been reached and administered for three days, an outbreak of pyrexia, coryza, and iodic acne rendered it necessary to drop the drug completely for a short time. In three weeks the patient left the hospital almost healed, and continued his treatment as an out-patient. Again, a lady who has during the last two years consulted me occasionally for intensely agonizing pain in the head caused by syphilitic pericranial and cranial diseases, for which a customary dose was thirty grains of sodium iodide three times daily, was at once relieved of pain by the iodoform pill taken three times daily, though, on the third day, nausea became too urgent to allow the iodoform to be continued in that quantity; it was at first diminished till pain ceased, and then discontinued altogether. This small experience has satisfied me that in iodoform we have a very useful addition to our store of weapons for fighting syphilis. Further observation will enable us to apply it more exactly and when most suitable.

—

On the Influence of Iron mixed with Food on the Blood.

NASSE (*Marburg. Sitzungsbericht*, No. 3, 1877) fed a dog weighing about 17¾ pounds, during eighty-seven days, with bread and potatoes; giving at the same time, for twenty-five days, 15½ grains of lactate of iron daily, and for the remaining sixty-two days 18½ grains of oxide of iron each day; the dose in each case being mixed with about six-sevenths of an ounce of fat. The weight of the animal increased by more than two pounds. The specific gravity of the blood rose from 1052 to 1060.8; that of the serum remained nearly unchanged. The amount of iron in the blood increased from 0.477 per mille to 0.755. In seven other dogs, out of eight subjected to experiment, feeding with various preparations of iron was followed by an increase of the solid constituents and of the specific gravity of the blood; the latter being 3.02 higher than before, indicating an addition of 7.6 per mille to the former. The increase of the solid constituents depended solely on that of the blood-corpuscles. The amount of iron in the blood rose regularly. In conclusion, the author expresses his belief that the administration of iron mixed with fat is productive of the most fruitful results; and he recommends the use of fat food containing iron for anæmic patients.—*London Med. Record*, Dec. 15, 1877.

Medicine.

Gonorrhœal Rheumatism.

Prof. HARDY, in a recent lecture at La Charité (*Gaz. des Hop.*, No. 149), made some interesting observations on gonorrhœal rheumatism. The subject of the lecture, a cook aged thirty-two, having contracted a gonorrhœa four months since, was a fortnight afterwards seized with violent pains in the ankle, and metatarsus of both feet, and so intense were they that for two months he was unable to walk. They then ceased, and the discharge, which during their presence disappeared, returned again. He was able to resume his occupation, when, under

the influence of a chill, the pains returned, and he came to the hospital. He was pale and anæmic, and had somewhat of a cachectic appearance. In both feet, but especially on the left side, the ankle and metatarsus were the seat of marked swelling, which was accompanied by excessive pain. There was no fever, and the pulse and digestion were quite normal. In fact there was no other symptom of anything amiss than slight albuminuria. This was evidently an example of what has been termed blenorrhagic rheumatism, and the albuminuria and complete anæmia which were also present indicated the existence of nephritis, which, and especially in its parenchymatous form, is a pretty frequent complication of gonorrhœa—resulting from a propagation of the urethral inflammation to the kidney. For the treatment of this case the salicylate of soda, now so much in vogue for articular diseases, was prescribed, and under its influence the spontaneous pains have diminished, but those felt in walking are just as severe. The relief, indeed, is probably due rather to repose than to the salicylate, which does not seem to exert the same beneficial effect as in ordinary articular rheumatism.

It is only since 1781 that the relation between certain articular pains and gonorrhœa was observed; first John Hunter, and then Ricord, Rollet, and Fournier, having most contributed to stamp this affection as a special nosological entity. The pains are sometimes very slight, and only manifested on moving; but in other cases they are extremely severe, and persist even during repose. There is a marked doughy tumefaction of the joints invaded, the amount of effusion being sometimes enormous, occasionally simulating a true hydrarthrosis. The erythematous redness of ordinary acute rheumatism is rare in this variety. It seems to have an especial predilection for the knee, after which come in order of frequency the wrist, ankle, shoulder, the fingers and toes, and especially the tarsus and metatarsus. But it is not always confined to the articulations, and for that reason it is preferable that it should be called rheumatism rather than arthritis, which has been proposed. Sometimes it is developed in the sheaths of tendons, at others in the tendinous bursæ, and more rarely in the sciatic nerve. Sometimes it occurs on one side and then on the other, and at others on both sides at once. While it is occupying these parts various accidents are often met with in the eye, as intense conjunctivitis with suppuration, or keratitis accompanied by iritis—phenomena analogous to those observed in this organ during ordinary rheumatism. The number of joints affected differs from what is observed in febrile rheumatism; for while this last has a great tendency to invade several joints, and sometimes the whole of them, it is rare in gonorrhœal rheumatism for more than one or two and sometimes three or four joints to suffer, and especially to find one after the other becoming affected, as is the rule in acute rheumatism. It is usually also apyretic, and if there is a little fever at first this only lasts two or three days. So, also, the secretion of sweat is either absent or insignificant, and the changes in the urine, due to the preponderance of the urates and urea, met with in ordinary rheumatism, are absent. Finally, in this variety there are not the complications of heart disease; while, as a general rule, after lasting weeks or months, a cure results; but it sometimes gives rise to a true hydrarthrosis or a white swelling, with anchylosis. For the production of this affection not only is the existence of gonorrhœa essential, but there must also be a special predisposition which is not a tendency to the rheumatic diathesis. If the subjects of this disease be interrogated, it will be found that, independently of the blenorrhagia, their joints remain perfectly free, and they are nowise liable to contract muscular or articular pains on exposure to cold. Sometimes this rheumatism will appear at the very commencement of the urethral discharge, and sometimes only one, two, or three days later; and the rule which has been laid down, that the pains are severe in proportion to the abundance of the discharge, rests upon no foundation, for they are met with

in the acute and subacute form of gonorrhœa, as in that which is manifested only by a slight discharge. It is not rare, when the articular pains appear, to find the gonorrhœa suddenly stopping, to return when they have been relieved. It would seem that a true metastasis takes place, the morbific material being transported from one place to another. But this phenomenon is far from being constant, and what is usually observed is that on the occurrence of the rheumatism there is only a certain amount of diminution of the discharge. Blenorrhagic rheumatism being, in fact, a local affection, and not being accompanied by general symptoms, measures which are purely local are those which alone succeed. Thus, at the onset we should have recourse to application of leeches, dry cupping, and cataplasms, and, if the affection threatens to be prolonged, to blisters. At a later period, if it tends to a chronic condition, we may employ baths, douches, and mineral springs—the different means, in fact, that are used to combat chronic rheumatism.—*Med. Times and Gaz.*, Feb. 2, 1878.

On Disturbances of Sight in Hysteria.

In a recent lecture M. CHARCOT called attention to certain disturbances of sight which are not unfrequently met with in hysterical patients.

Some years ago M. Briquet described various morbid visual phenomena met with in patients the subjects of hysterical hemianæsthesia. "With the eye on the hemianæsthesic side," says M. Briquet, "the patient sees badly: the outlines of objects are badly defined; white objects appear gray; reading becomes difficult, or impossible, the print appearing only as a dark gray tint on a background of lighter gray. When the anæsthesia is complete, the affection of sight goes on to complete amaurosis."[1]

Dr. Galezowski was the first to show that this kind of amblyopia is almost always accompanied by diminution or loss of the power of appreciating colours. It is remarkable that this perversion of the sense of sight, so far as colours are concerned, follows certain laws which have been investigated by M. Landolt in M. Charcot's wards at the Salpétrière. In the normal state all parts of the field of vision are not equally sensitive to different colours; for some colours the field is wider than for others, and the differences follow much the same law in different subjects. Thus, in the great majority of cases, it is for blue that the field is widest; next comes yellow, then orange, red, green; whilst violet is only perceived by the most central parts of the retina. In hysterical amblyopia these characters are found to be exaggerated in various degrees. The different circles which correspond to the limits of vision for each colour are concentrically retracted more or less; and numberless varieties of change may be met with in well-marked cases. Thus, the field for violet, the most "central" colour, may become narrowed to complete extinction, the other colours remaining clear. The next colour to disappear will be green, red, and orange will follow in their turns, whilst yellow and blue are only lost in a high degree of amblyopia. As might have been expected, however, there are some exceptions to the general rule. Thus, certain patients continue to see red when their perception for yellow, and even for blue, is entirely lost. Nevertheless, among the cases hitherto observed, it is the rule that green and violet—and especially the latter—are lost before red or any of the other colours. When the perception for all the colours is gone, that for form only being preserved, objects appear of a gray tint, much as in a painting in Indian-ink. In the highest degree of amblyopia the perception of form may be lost as well as that of colour; there is real amaurosis. Such cases are, however, rare.[2]

[1] "Traité Clinique et Thérapeutique d'Hystérie," page 293.

[2] Charcot "Leçons sur les Localizations Cérébrales, page 118.

Although these alterations in the field of vision for colours are especially seen in the eye corresponding to the anæsthetic side, yet it is common to find that in the opposite eye the field is somewhat contracted, though in a very much less degree. Thus, patients who are only able to distinguish the most peripheral colours—yellow and blue—with the eye of the affected side, have only lost perception in the other eye for the most central—violet, or perhaps green. We may conceive theoretically that numerous combinations such as these might be met with; and many such have, in fact, been observed. It is scarcely necessary to say that these phenomena are of a purely functional character, and that they are not accompanied by any alteration visible by the ophthalmoscope; there is not even any difference in the comparative vascularity of the two eyes.

The visual phenomena are characterized, moreover, by the same liability t variation that is seen in other local manifestations of hysteria. Like these, they may appear or disappear suddenly, or remain permanently persistent—perhaps as the only symptom. An already existing dyschromatopsy may give place all at once to complete achromatopsy for a short time before the occurrence of a convulsive attack; and it may disappear after the attack almost as suddenly as it came on. Occasionally complete double amaurosis may be found immediately after an attack. At the same time the anæsthesia, which had previously been confined to one-half of the body, will have extended to the whole body. It may also happen that muscular amaurosis or complete blindness comes on suddenly or gradually, apart from the occurrence of a fit. Complete double amaurosis is, however, rarely met with. Briquet has only seen it three times, M. Charcot hardly more frequently. On the other hand, dyschromatopsy, achromatopsy, and even complete amaurosis, of one eye are comparatively common.

A very interesting combination of symptoms, which M. Charcot has several times met with, is the following: The patient is slightly analgesic in the trunk and limbs of one side; the corresponding side of the face is markedly or even completely anæsthetic. There is complete double achromatopsy, or at the most the patient sees the more peripheral colours—yellow and blue—fitfully with the eye of the opposite side.

The presence of achromatopsy on the side where the sensation is otherwise normal, as well as on the anæsthetic side, affords a clue to the explanation of amaurosis in certain hysterical patients, where all ordinary hysterical symptoms are absent or but slightly marked. It must be mentioned that, remarkable as they are, these peculiar modifications of vision are not met with only in hysteria, as M. Charcot pointed out some time ago.[1] He showed that they are met with in all their varieties in the monocular amblyopia associated with hemianæsthesia of general and special sensation in cases of cerebral lesions of the posterior part of the internal capsules in the region which he has called "the cross-roads of the sensory tract" (*carrefour sensitif*). In these cases there is the same diminution in the acuteness of sight; the same general and concentric narrowing of the field of vision for colours in both eyes, but much more marked in the eye opposite the lesion; the same absence of ophthalmoscopic signs. This form of amblyopia, then, belongs to cerebral hemianæsthesia in general, and not to hysterical hemianæsthesia in particular. It is easy to understand the interest—not only practical, but theoretical—which attaches to this relation between the organic and the functional conditions. From the situation of organic lesions capable of giving rise to general and special hemianæsthesia, we seem able quite easily to name the position of those lesions (inappreciable by our present modes of investigation)—those *dynamic* lesions, as they are still sometimes called—upon which depends the cor-

[1] "Localizations Cérébrales," page 119.

responding hemianæsthesia of hysteria. They are probably situated upon the fibres crossing the above-named region, or upon the prolongations at the surface of the brain, or perhaps both parts may be involved at once.

M. Charcot next called attention to another kind of visual disturbance first noticed by him a long time ago, and which, though by no means a rare symptom, has never hitherto been described. It is well known that very marked and very various hallucinations form one of the most ordinary accompaniments of hysterical delirium. M. Charcot finds that they may also be met with in the interval of attacks, following attacks, or perhaps at the time when a fit is about to come on. It is not uncommon to see hysterical patients sitting quietly at work, suddenly get up from their seat with a cry as though surprised at the sight of some frightful object which they wish to avoid touching. If asked why they have acted thus, they say that they thought they saw animals, rats, cats, or perhaps some fantastic shape, running over the floor, or on the neighbouring wall. At other times it is the sight of grinning faces which has caused their fright. The imaginary animals are generally black or gray in tint, sometimes, though rarely, of a bright red colour. In any given patient they always appear on the same side—the side which is hemianæsthetic, and consequently on the side where the modifications of colour-vision are most marked. The animals generally move rapidly one after the other, and as a rule they disappear as soon as the patient turns the eyes to the side on which the apparition is seen. It may, however, last much longer, especially if the patient is at a period of "nervous high tide," in the *état-de-mal*, or has recently had a fit. M. Charcot showed a number of patients who are liable to this particular form of visual trouble in a very marked degree.

Such, then, are the principal modifications of vision which are commonly met with in hystero-epilepsy, and even in ordinary hysteria. Many other visual symptoms occur in certain cases, such as defects of accommodation, certain forms of diplopia, etc., but these are rare.—*Med. Times and Gaz.*, Jan. 19, 1878.

The Ophthalmoscope in Tubercular Meningitis.

Dr. BOUCHUT, in an introductory lecture (*Gaz. des Hop.*, December 11), observes that during the fifteen years since 1862 he has collected nearly 2000 cases, most of them verified by autopsies, which show that the meninges, the brain, and the cord produced in the fundus of the eye appearances, the knowledge of which confers a precision in the diagnosis of cerebro-spinal diseases not otherwise attainable. On the present occasion he confines attention to tubercular meningitis, his observations being founded on 472 cases which have come under his notice. In exploring these affections as much aid is derived from the sense of sight, as from hearing in the employment of auscultation in diseases of the heart and lungs. The signs so observed are of very great importance, oftentimes sufficing to remove all doubts that may attach to the diagnosis. Thus, in many cases of miliary tuberculosis, which commence with symptoms resembling those of typhoid fever, the neuro-retinitis or tubercular choroiditis, revealed by the ophthalmoscope, made clear a diagnosis which otherwise must have been delayed. In these 472 cases, these intraocular lesions have been exhibited no less than 463 times. They are often observable from the commencement of the disease, but more often at the second stage, being most marked at the period when coma and convulsions set in. During the hours which precede death they become gradually effaced, so that the approaching termination may sometimes be recognized in the eye. Five minutes after death they have almost disappeared, the fundus of the eye being of a leaden-gray color.

The lesions are sometimes observable at the very commencement of the men-

ingitis, when the child is only dull, with sickness and headache and a little fever —symptoms which may cause meningitis to be suspected; but, unaided by the ophthalmoscope, could never admit of certainty of opinion. As the disease advances, the signs become modified and increased from day to day. They are often alike in the two eyes; but sometimes are more considerable in one than in the other, corresponding to the hemisphere in which the lesions are most considerable. Sometimes they are first observed on the external side of the papilla, whence they become rapidly generalized; but in most cases they occupy the entire papilla. In ordinary tubercular meningitis the lesions have their proper characters, which are not met with in partial encephalitis and in tumors of the encephalon accompanied by paralysis of the sixth pair. In the latter, the exudation of the neuro-retinitis is more dense, white, and obstructive to the circulation; so that the vessels are hidden, and numerous minute hemorrhages are produced. In meningitis the papillary exudation is less and only opaline, and is accompanied by a varicose enlargement of the veins, inducing fewer hemorrhages. At the same time that this acute neuro-retinitis is forming there is also observed a tumefaction of the optic nerve, which becomes reddened, but preserves its limits pretty distinctly. The tumefaction, however, increases, and the nerve becomes veiled by a semi-transparent grayish *teint*, which extends beyond its contour, and slightly conceals it. Somewhat later, the entire nerve becomes veiled, the grayish tinge which rendered the papilla diffused extending to the retina in its vicinity. The nerve is more and more hidden, becoming sometimes invisible under the grayish-red veil which covers it, its presence only being indicated by its point of emergence, and by the radiation of the arteries and veins. This is the most common form of the *acute neuro-retinitis of meningitis;* and although similar appearances may be found on other pathological conditions, yet, by combining its appearance with the other symptoms presented by the disease in the child, its significancy becomes of great importance, and the diagnosis a certainty.

At the same time that this neuro-retinitis is becoming developed, more or less considerable changes are produced in the arteries and veins at the fundus on the eye. The arteries, compressed during their course by the tumefaction of the optic nerve, become less and less apparent, and sometimes even invisible; while the veins become, on the contrary, filled with thromboses, and sometimes rupturing, so that blood becomes extravasated beneath their outer coats, forming *true primary false aneurisms of the veins.* From time to time tubercular choroiditis becomes added to the neuro-retinitis, but in a less proportion than might be expected. Thus, among the 472, such combination occurred only in thirty-nine. This acute choroiditis is very interesting to observe from day to day, in consequence of the changes it undergoes, and the enlargement of the miliary granulations. These are whitish, as fine as grains of sand, with the power of increasing to the size of an ordinary lentil. They are more or less brilliant at their centre, either sharp or diffused at their circumference, devoid of apparent vessels, but often placed under a vessel of the retina. They keep on increasing, so as sometimes to double their size. If the disease is prolonged, new ones appear which were not visible at its commencement.

After describing the anatomical characters of the affection, as shown by 296 autopsies which he has performed, Dr. Bouchut alludes to the mechanism by which these lesions may be supposed to be produced. In certain cases of cerebral tumour, accompanied by neuro-choroiditis, Von Graefe supposed this to be induced by the repletion and stasis of the cavernous sinus, which, by obstructing the circulation of the eye, led to tumefaction and œdema of the papilla, and the distension and rupture of the retinal veins. This M. Bouchut regards as the correct view, believing also that obstruction is caused not only by this condition of

the cavernous sinus, but also by similar conditions of the other sinuses, as well as by any intracranial effusions that may be present. So that the existence of the acute neuro-retinitis of meningitis is due to a *true mechanical cause*, which prevents the complete return of the venous blood of the eye into the cranium, and leads to the production of these circulation and nutrition lesions in the fundus of the eye. Schwalbe, on his discovery of the communications of the subarachnoid spaces with the sheath of the optic nerve, has offered another explanation, viz., that the serous infiltration of the sheath induces strangulation of the papilla and hyperæmia of the veins. But although in meningitis this serous infiltration of the sheath of the optic nerve is met with, yet the same fact is observed in a great number of other non-cerebral diseases. Thus M. Bouchut found it existing to as great an extent as in meningitis in a series of thirty children dying of pneumonia, diphtheria, phthisis, etc., without having exhibited any cerebral symptoms. It is possible that it may act as a concurrent cause in meningitis, but it cannot be substituted for the mechanical explanation offered above.—*Med. Times and Gaz.*, Jan. 12, 1878.

—

On Radiant Heat as a Cause of Insanity.[1]

Except by the old writers, who ascribed all kinds of brain-disease to the action of the sun's rays on the head, not many cases of psychoses caused by radiant heat have been recorded, and those mostly of short duration. Delacoux reports that, during the march of Marshal Bugeaud in Oran in 1838, under a hot sun, 200 men were taken ill with symptoms of brain-hyperæmia; of these 11 committed suicide in consequence of hallucinations. Barclay saw a case of melancholia following insolation in South Africa; the patient ultimately destroyed himself. Grisolle observed among sailors in the hot zones melancholia with strong tendency to suicide. Oberneier reports a case of insolation, in which great excitement, with marked hallucinations of sight and hearing, preceded death. Persistent weakness of memory, dulness of understanding, and various paralyses, have frequently been observed after *coup de soleil*.

Hardly anything is to be found in literature concerning the influence of the heat radiated from furnaces in large factories, etc., on the causation of insanity. The paucity of these cases may be partly due to the following causes:—when the heat becomes unbearable to any workman he can always escape into a cooler atmosphere, which under a tropical sun he could not do; the rays from a fire do not fall so directly upon the head as do those from the sun, but act mostly upon the anterior surface of the body and the face; lastly, stokers and others who work near large furnaces are habituated to very high temperatures, and that this affords very great immunity from any ill effects is shown by the rarity of insolation among natives of the tropics, as compared with foreigners from more temperate climates.

Cases have occurred of sudden illness resembling insolation, though really due to the heat of fire, which have ended in death, and in which the *post-mortem* appearances, especially as regards the brain and its membranes, have been identical with those caused by sunstroke. The similarity of the influence of the sun's rays and of artificial heat on the brain and its membranes has been proved by experiment upon animals by Oberneier, Wood, and others.

Psychoses due to the action of radiant heat are really more frequent than has been hitherto believed. During the last few years there have been fourteen such

[1] Allgem. Zeitschrift fur Psychiatrie, Band 34, Heft 3.

cases in the asylum at Siegburg; six of these occurred in workmen exposed to excessive heat, and eight were due to insolation.

In two fatal cases, in one of which insanity was due to sunstroke, and in the other to the heat of a furnace, hæmatomas of old and recent date were found, together with cloudiness and thickening of the membranes, hyperæmia of the same, and œdema of the brain. In the latter of the two cases there were in addition granulations of the ependyma on the floor of the lateral and fourth ventricles, gray degeneration of the lateral columns, hyperæmic and greatly thickened membranes of the spinal cord.

Insanity due to insolation generally commences quite suddenly. Only in a few cases the patients apparently recover and resume their ordinary occupation, until, under some harmful influence, the disease again breaks out. In the case of stokers, feelings of weakness, fatigue, disinclination for work, pains in the head, etc., generally precede for a considerable time the outbreak of insanity. The patients become impatient and restless, believe themselves to be followed and mocked; sooner or later they become maniacal, destructive, and dirty in their habits. They are most also sexually excited, and masturbate shamelessly. In some cases the disease commences directly with psychic and motor excitement, and grandiose delusions are developed, such as are usually only observed in paralytics. The maniacal excitement, in a few cases, lasts only a short time, and melancholy with weariness of life predominates until the end of the disease. In other cases, however, mania with large delusions persists until death. All the patients are subject to frequently recurring attacks of congestion to the head; they constantly appear preoccupied, and even when most excited seem to be in a kind of dream.

In almost all cases paralytic symptoms appear early. The pupils are at first contracted, but later dilated and unequal; strabismus is frequent, and ptosis not uncommon. The tongue trembles when protruded, and inclines to one side or the other. The speech becomes stammering and the gait unsteady. In most cases the paralytic symptoms steadily progress; the intellect, especially the memory, fades rapidly, and the patients die, often in a very short time, of apoplexy or general paralysis. In the cases of recovery, the patients become gradually quieter, the paralytic symptoms disappear, and after a short stage of reaction, the patient gets well.

Here follow reports of all the fourteen cases observed by the author; in only three of them did hereditary disposition exist. Of the eight cases ascribed to insolation, five commenced quite suddenly, while those due to artificial heat were mostly preceded by prodromal symptoms. In nearly all the cases the insanity began with depression due to powerful hallucinations and delusions of persecution; after a variable period attacks of mania supervened; this last was accompanied in six of the cases by large delusions. All the cases except three presented paralytic symptoms soon after the outbreak of mental disease. These gradually disappeared as the intellect became clearer in the cases which recovered, but were progressive in the other cases.

Of the whole fourteen patients, five were discharged cured, two died, one is demented, three are still under treatment, and the remainder have been discharged as incurable. Of the five cases which recovered, two were ascribed to *coup de soleil*, and the other three occurred in workmen exposed to excessive artificial heat. It appears that three of the eight patients whose insanity followed insolation made attempts at suicide; whereas none of the fire-workers showed any suicidal tendency.—*London Med. Record*, Jan. 15, 1878.

On Writer's Cramp.

M. GALLARD, in his recent volume, *Clinique Médicale de la Pitié*, has come to the conclusion that writer's cramp is certainly a professional disease, but a clinical study of it decidedly shows that it is far from being special to persons who write much. Absolutely similar disturbances are seen in persons who follow other avocations, such as engravers, artificial flower makers, pianists, violinists, telegraphists who use the House-telegraph, etc. But in all these persons the disturbances observed occur in the hands and fingers. Absolutely similar, nay, identical disturbances are observed in persons following professions which exercise other muscles than those of the forearm or hand; and then these disturbances occur in the muscles which are necessarily contracted by the habitual exercise of the avocation, whether these muscles be those of the arm, shoulder, leg, neck, face, or even the trunk. The analysis of these various facts leads the writer to the first conclusion, that the disease in question is not peculiar to writers; the analysis of the symptoms leads him to another conclusion, that it is not a cramp; whence he feels the necessity of substituting for the incorrect denomination writer's cramp, the far more suitable name proposed by Dr. Duchenne of Boulogne, viz., functional impotence. In reference to establishing the nature of this morbid condition, M. Gallard, after having proved that it evades any anatomical localization whatever, is led to admit that it is a simple functional disturbance and nothing else. He is particularly struck by finding, with regard to its etiology, that fatigue is far from being an essential cause of it; for this disease does not occur in those who work in a certain way, when the intelligence, otherwise occupied, does not exercise a sufficiently attentive supervision over the muscular movements. This is because there is at that time a veritable discordance between the cerebral acts and the movements, which are performed in a thoroughly automatic manner, that the muscles become fatigued, and finish by performing disordinate movements, that they may be considered as being in an ataxic condition. It is very singular to see a trouble so essentially nervous constitute a morbid functional state which is almost incurable; and M. Gallard in vain seeks the reason of this peculiarity in certain diathetic influences, which he most carefully studies, and which he endeavours to make the basis of a rational treatment. But he is obliged to acknowledge the small efficacy of all the medical means he has successively employed, including electricity; and, tired of the struggle, is reduced to advise prothetic apparatus, in which he does not seem to have much more confidence, although he describes them with great minuteness.—*London Med. Record*, Jan. 15, 1878.

On Spinal Hemiplegia.

KÖBNER (*Deutsches Archiv für Klin. Medicin*, Band xix., and *Centralblatt für die Medicin Wissenschaften*, Nov. 3) reports two cases of spinal hemiplegia. The first was the case of a man aged 28, the subject of secondary syphilis, in whom lumbar pain was soon followed by paralysis of the right leg and loss of sensibility in the left. In the right leg sensation was preserved, but for a time it, as well as the reflex excitability, were increased, the temperature was lowered, the muscular sense preserved. In the left leg motion was normal; but sensibility showed a peculiar partial diminution, for although tactile sensibility, the senses of weight and of space, were intact, sensibility to pain and temperature were lost. There were also present the sensations of a half girdle, and disturbances of the vesical, rectal, and genital functions. By the presence of other decided syphilitic phenomena and the improvement of all the symptoms by the inunction cure, no doubt remained of the case being a right-sided syphilitic affection of the spinal

cord opposite the lumbar enlargement. The second case was that of a woman aged 31, whose history included syphilis. There were present paralysis of the left lower extremity, with normal cutaneous sensibility, sometimes heightened; sensation of passive movements was abolished. The motor functions of the right leg were not quite intact, but it was not much stronger than the left, and sensibility to touch, pain, and temperature was abolished, although the perception of passive movements remained. In this case the lesion, at least at the commencement of the disease, must have been limited to the left half of the cord.—*London Med. Record*, Jan. 15, 1878.

—

Paralysis of the Right Spinal Accessory Nerve.

In a dissertation (Berlin, 1877), B. Holz describes the case of a man who, previously in good health, was suddenly seized, after exposure to cold, with weakness of the right arm. On the same day he also began to suffer from difficulty in swallowing. The right shoulder was lower than the left, and could be only slightly raised. The right trapezius and sterno-cleido-mastoid muscles felt flabby, although they reacted well to the electric current. The angle of the right scapula lay nearer the spine than that of the left; the upper part of the bone, however, stood further out. The left half of the palate appeared narrower and more arched than the right; the uvula deviated to the right; the left half of the palate alone moved; the right, even during rest, was farther from the pharynx than the left. The speech was not nasal, although there was difficulty in swallowing. The sensibility of the pharynx was normal, as was also the motor power of the right side of the face. The right vocal chord was paralyzed; the sensibility of the laryngeal mucous membrane was increased; the voice was not hoarse. The pulse was persistently accelerated, though but slightly. Iodide of potassium and faradization greatly improved the patient's condition. In Holz's opinion, there was rheumatic paresis of the accessory nerve, the seat of the lesion being in the trunk of the nerve a short distance beyond its exit from the skull.—*British Med. Journ.*, Jan. 5, 1878, from *Centralblatt f. d. Med. Wissenschaften.*

—

On the Treatment of Tetanus by Rest.

Professor H. de Renzi, of Genoa (*Gazette Médical de Paris*, No. 32, 1877), in a letter to Professor Botkin, says that in many cases it appeared to him that rest alone was the only means by which the terrible sufferings could be relieved. He relates how, by a series of observations, he was led to perfect this method of treatment by rest, and to accomplish cures which previously he could not obtain with the most powerful remedies. In one case of tetanus, which died in spite of large doses of chloral, the effects of light were observed; the number and intensity of the attacks were almost doubled when the patient, previously kept in darkness, was exposed to light. The approximate proportion of paroxysms was ten in darkness, eighteen in full light. He instituted numerous investigations concerning the strychnine tetanus of frogs, which closely resembles idiopathic and traumatic tetanus, and found the following results: 1. Tetanus is more intense in the frogs when placed in full light than in those kept in darkness. 2. The spasms develop with greater rapidity and intensity in animals which are agitated incessantly than in those which are kept quiet. The influence of mechanical stimulus is much more marked when aided by light. 3. Small frogs poisoned with one-twentieth of a milligramme of strychnia die soon if they are struck briskly, but may survive if left in perfect repose. Two cases of tetanus in man were treated in 1873; the first was treated with successive doses of chloral and repeated injections of curare, and died; the second, treated almost exclu-

sively by rest, recovered. Of three other cases treated in 1874, on the same plan, only one died. Since then he further notes three recoveries out of four cases. A case which recovered was one of strychnine tetanus, in which every attack produced symptoms of asphyxia. Another recovered case, with intense symptoms, had followed amputation of the little finger after injury. The third case was one of idiopathic tetanus following fever. The death of the fourth case is attributed by the author to the fact that in his absence the patient had not been kept completely isolated. In one of the three first cases the patient, who had bronchitis, was taken with great difficulty in expectoration and intense dyspnœa. The author thought that the absorption of oxygen and elimination of carbonic acid were impeded by the profound darkness of the room—according to Pettenkofer, whose experiments have proved that light facilitates the two acts of respiration. Accordingly, as soon as the patient was found to be out of danger, light was occasionally admitted into the room, and it was ascertained that then the number of respirations per minute was greater than when darkness prevailed. The author summarizes his plan of treatment as follows: 1. Placing the patient in a room perfectly dark, the door being opened only every four hours to bring and remove necessary articles; 2. Obliterating the auditory canal with wax, and advising the patient to keep as quiet as possible; 3. Administration of beef-tea, an egg, and two tablespoonfuls of wine every hour; 4. Belladonna and ergot for the relief of pain; 5. The floor should be carpeted.—*London Med. Record*, Jan. 15, 1878.

On Occipital Neuralgia.

In view of the statements of Erb and Hasse, that little or nothing is known of vaso-motor and trophic disturbances in connection with occipital neuralgia, the following case is of interest. It occurred in Dr. Naunyn's practice in the clinic of the University of Heidelberg, and is reported in the *Berliner Medicin. Wochenschrift*, Dec. 10, by Dr. JULIUS SCHREIBER, Assistant-Physician.

F. P., a mechanic, aged 49, of healthy parents, had suffered severely from intermittent fever within the last twenty years, from which even now he is not quite free. His present illness commenced in the spring of 1872 with severe pains at the back of the head. They lasted three months, and then were removed under medical treatment. After an interval of two years, they recurred in the manner here described. He was a well-built, well-nourished man, and his affection was only indicated by the head held inclined forward in an anxiously constrained manner. The head was large and symmetrical, with abundant growth of hair, the face was red, the conjunctivæ were injected, and there was a copious secretion of tears. Pressure on the forehead and intra-orbital region was painless, but the scalp, and especially the occiput, was extremely tender. In this region intense pain had existed for four weeks, which appeared to follow the course of the great occipital nerves, and was severest at the vertex, where in a space of about a hand-breadth there was acute sensibility to the slightest touch. The pain was paroxysmal, commencing every morning exactly at six and nine o'clock, lasting each time from fifteen to thirty minutes, and was always ushered in by repeated sneezing, with increased mucous secretion in both nostrils. When the pain had lasted some time, stiffness of the neck supervened, rendering all lateral movement impossible. But the patient was able to incline the head forward, by which the pain was considerably lessened. It was found that he could also incline the head backwards; this, however, at first increased the pain until a certain point of reclination had been reached, after which a further bending backwards was attended by the same relief as in inclination forwards. Towards the

end of each paroxysm there was repeated hiccup; after which there was ease for the rest of the day. He was ordered a daily dose of 1 gramme (=15½ grains) of sulphate of quinine. With each dose the attacks diminished, and after the third dose there came on only the usual sneezing and hiccup, but no pain. After a complete cessation of six weeks, the disorder returned. One gramme of quinine was ordered to be taken at 4 A. M. and 3 P. M.; and when four grammes had been taken, the attacks ceased. He took daily, for a fortnight more, half a gramme of quinine, and has been well since. This was a clear case of double intermittent occipital neuralgia. The accompanying vaso-motor phenomena of sneezing, injection of the conjunctivæ, lachrymation, and increased nasal secretion are generally found only in neuralgia of the fifth nerve (trifacial, trigeminus). In the present case they point to a close relation of the occipital and trigeminal nerves. This connection was indicated by Lambert (*London Med. Gazette*, vol. xxvii., p. 918), who was about to divide the facial nerve in a case of prosopalgia (tic douloureux). On cutting down behind the lobe of the ear, he came upon the great auricular nerve, which, when touched, threw the affected facial nerves into a state of tension. On dividing it the tic was cured. The pain in trigeminal neuralgia is, further, sometimes found to radiate along the course of the occipital nerve. The hiccup may be regarded as due to irritation of the vagus, reflected from the occipital nerve (Pflüger, *On the Sensory Functions of the Spinal Cord*, 1853). Though the rigidly erect position of the neck is regarded usually as almost pathognomonic of occipital neuralgia, yet the present patient constantly held his head inclined forward, and carefully avoided raising it. It would seem that, so long as the inclination of the head, forward or backward, is occasioned only by the weight of the head, it is not only possible, but productive of ease, whereas any further inclination, or a raising movement, increases the pain, by throwing into action those muscles of the neck whose nerves are implicated in occipital neuralgia.—*London Med. Record*, Jan. 15, 1878.

On Paracentesis in Pleurisy.

Dr. WILSON FOX, in a paper on "The Mortality of Pleurisy considered in Relation to the Operation of Paracentesis Thoracis" (*British Medical Journal*, November 24th, and December 1st, 1877), has collated a considerable series of statistics showing the relative mortality of pleurisy treated with and without paracentesis. The statistics are gathered from the great hospitals of Vienna, Prague, Paris, London, Manchester, and Berlin. The first table shows the mortality per cent. of *all* cases of pleurisy treated without paracentesis, collected from these various sources, and extending over a period of 32 years. The mean total mortality is estimated at from 10 to 17 per cent., though in some cases and in some institutions it fell as low as from 6 to 7 per cent., and at the Children's Hospital, Vienna, it was as low as 1.6 per cent. With this mortality, which Dr. Fox admits is higher than he expected to find, he contrasts the statements of Louis, Walshe, and Gairdner, that uncomplicated pleurisy is rarely fatal; and he draws up a second table comparing the mortality of complicated and uncomplicated pleurisy. The mean mortality in the latter case is but 6 per cent.; and in uncomplicated serous effusions he considers Ewald's average of 2.2 to 2.7 per cent. to be quite an outside limit. Dr. Fox then passes to the consideration of the statistics of cases of paracentesis, and he finds the mean mortality after operation raised to 27 per cent.; only falling to or below 10 per cent. in the hands of observers whose operations were confined to serous effusions in the early stage. The table is drawn up with laborious care, the cases, upwards of 1600, being collected from a great number of authors, both English and foreign. The mean mortality of serous effusions after paracentesis is shown to be 17 per cent.; of

sero-purulent and purulent, 37 per cent.; of sanguinolent, 77 per cent.; and of pneumothorax, 85 per cent. The causes of death after paracentesis in serous effusions are found to be purulent transformation, tubercle, malignant disease, and general grave complications. Purulent transformation was the cause of death in 45 per cent. of the total number of cases that proved fatal; or in 25 per cent. if all cases complicated by phthisis and other grave maladies be excluded; or in from 10 to 5 per cent. of all cases operated upon. Dr. Fox does not refer this change to the causes usually assigned, *i. e.*, to an original tendency to purulence shown by a lactescent appearance of the fluid when first aspirated, nor to the admission of air into the pleura, nor to the presence of tubercle, nor to the existence of pyrexia at the time of operation, though in individual cases each of these may be the cause of purulence, but rather to parenchymatous changes in the structure of the pleura itself, the artificial withdrawal of the fluid having a tendency to intensify congestion, and to increase inflammatory action. He believes that there is but little natural tendency in serous effusions to undergo purulent transformation, and that in the vast majority of cases where it has followed paracentesis it must be directly ascribed to the operation. Considering the whole question of serous effusions, Dr. Fox holds to the opinion that death from uncomplicated serous effusion is among the rarities of medical experience, and that reviewing the results obtained by paracentesis he cannot look upon it altogether as a life-saving operation. He advises that greater caution should be exercised, and that it should not be performed in very early stages of the disease or without distinct indications for its necessity, the most important of these being threatened failure of cardiac power. The most potent argument in favor of an early operation, he finds, is the fear that the long continuance of the effusion may endanger the expansibility of the lung. He admits, however, that the cases which recover under early paracentesis do so more rapidly than if it be deferred, or if they be left to nature.

Turning to purulent effusions treated by paracentesis, he considers the mortality of 37 per cent. very high, though he anticipates that it may be diminished by a careful application of the antiseptic method. It contrasts unfavourably with the statistics of the non-operated cases left to spontaneous cure. Of Anderl's cases of empyema, the mortality of the non-operated was 13 per cent. less than the operated, the cases that resulted in spontaneous external opening being the most successful; out of 25 cases the deaths were only two, or 8 per cent.; of eight cases of bronchial perforation the deaths were three, or 37 per cent. Dr. Goodhart reports 11 cases of spontaneous external opening, all of which recovered; Ewald six, three of which died. Dr. Fox considers it more than probable that in certain cases the pus is reabsorbed.

In conclusion, Dr. Fox urges that the operation of paracentesis should not be resorted to carelessly and in haste to produce immediate and temporary relief; that the risks are great, and that many cases may recover if left to the action of nature. He further considers that when the operation is necessary, the withdrawal of a small portion of the effusion gives immediate relief, and is very frequently followed by the absorption of the remainder.

In answer to a question put by Sir William Jenner during the discussion that followed the reading of this paper at the last meeting of the British Medical Association, as to the relative mortality of the operation of paracentesis at different ages, Dr. Fox appends an addendum. He shows, by statistical tables, that the deaths after the age of thirty exceed those before that age in serous effusion by 16 per cent.; in purulent effusion by 9 per cent.; in uncomplicated serous effusion by 9 per cent.; in uncomplicated purulent effusion by 6 per cent. Pleurisy,

on the other hand, seems more frequently to occur between the ages of twenty and thirty.

Dr. CLIFFORD ALLBUTT ("On the Treatment of Pleuritic Effusion," *British Medical Journal*, November 24, 1877), declares his enthusiastic belief in the value of paracentesis. There is no doubt in his creed, and it is thus boldly expressed: "Let him, then, who hesitates to tap the pleura, remember that, before his next visit, his patient, seemingly so tranquil, may have passed into the deeper stillness of death. Whether the effusion then be rapid or slow in its flood, if the cavity be full, operate without delay. This is, I believe, one of those golden rules to which there is no exception." Speaking also of empyema, he says: "If I have one conviction in medicine more urgent than another it is this, if pus or other septic material be present in the body, we must not rest until it is removed. I therefore dislike and reprobate all temporizing with an empyema. Out with it, and provide against a reaccumulation." He divides pleurisy into acute fibrinous pleurisy, quiet effusive pleurisy, empyema, and pleuritic dropsy. The first, characterized by pain and pyrexia from the outset, is of an active and inflammatory nature, and the exudation has a tendency to reabsorption. Such cases he treats by leeches, diuretics, and blisters. If dulness continue after the fever has abated, he puts the patient under a course of mercury. Only when the circulation is impeded does he resort to tapping. He declares that in these highly organized effusions suppuration rarely occurs after operation, even if air enter the pleura. He recommends in these cases the use of the aspirator, with fine canulæ, and to puncture the pleura repeatedly, drawing off what is to be had at each point. In quiet effusive pleurisy in the serous stage, tapping is recommended unhesitatingly; and, if the operation be performed early, the results are excellent—a serious illness of three months under medical treatment being converted into a moderate indisposition of three weeks. The longer, however, operation is deferred, the less confidently can the best results be hoped for; the more danger of empyema and of clots, and the more the danger to lung and constitution. Delay, he urges, in large effusions exposes the patient to the risk of sudden death; and, though in small effusions delay and medicinal treatment may be counselled, yet Dr. Allbutt finds it better to tap in all cases where more than two pints of fluid are present. He considers, however, that in quiet serous effusions the aspirator is unadvisable, as no more fluid should be withdrawn from the chest than the lung can replace at that time. He prefers and uses, therefore, a fine trocar and canula, arranged so as to act on the syphon principle. In empyema he advises opening the cavity freely with antiseptic precautions as low down as possible, to let the pus drain out.

In a paper ("Notes on Pleuritic Effusion in Childhood," *British Medical Journal*, December 1, 1877) Dr. THOMAS BARLOW and Mr. ROBERT PARKER record their personal experiences. From the frequent difficulty of recognizing pleurisy in children, and diagnosing between serous and purulent effusions, they recommend, as a *matter of routine*, the use of the hypodermic syringe as a diagnostic aid. In the treatment of serous effusion, they recommend very strongly that the removal of a very small quantity of fluid is to be preferred to emptying the pleura; and they state that this is frequently rapidly followed by absorption of the rest. This may be done by the aspirator, or even by the hypodermic syringe. If the effusion be considerable and the dyspnœa urgent, then they advise emptying the chest, to give the lung the chance of expanding, which it does in a rapid and forcible manner in children. Their opinion is against the treatment by iodine, diuretics, and blisters.

From the marked majority of cases of pleurisy in children being empyemata, and from having practically ascertained the fact that a serous effusion will remain

serous for an indefinite period, they lean to the opinion that purulent effusions are not so from transformation, but are empyemata *ab initio*. To evacuate the pus if collected in small quantities separated by adhesions, a hypodermic syringe capable of holding two drachms is recommended; if the collection be larger, the aspirator-trocar (Potain) should be used. It is thought better to perform paracentesis under chloroform pushed to complete insensibility, to avoid collapse and cough. If pus should become fetid or rapidly accumulate in larger quantity permanent drainage is advised, and it is contended that in all cases this should be done by a double opening, to secure more complete drainage. The first opening should be made in the front of the thorax; the second below and internal to the angle of the scapula. In lieu of washing out the cavity with a syringe or irrigator, it is thought better to place the little patient in a warm bath, containing a weak solution of Condy's fluid, or carbolic acid, with the water high enough to cover the upper opening. Of the natural modes of cure, they consider rupture through the lung the least unfavourable. Of eight cases under their care two died, two made good recoveries, and four have done indifferently well. Spontaneous evacuation by external opening has given in their experience no good result, being associated with ulceration of the pleura, necrosis of the rib or rib-cartilage, abscess, unhealthy ulceration of adjacent tissues, and subsequent deformity.

Dr. HENRY BARNES ("On the Value of Paracentesis of the Chest in the Treatment of Pleuritic Effusion, *British Medical Journal*, December 1st, 1877) publishes eleven cases of pleurisy in which paracentesis was eminently successful. The cases were three of simple acute pleurisy, relieved and cured by a single operation; two cases of acute pleurisy occurring as a complication of enteric fever, in each of which paracentesis was performed three times with complete recovery; and in the three cases of chronic pleurisy two recovered after one operation; the third had paracentesis performed fourteen times, Dr. Barnes considering the pleura had lost its absorbing power from the considerable stretching it had undergone through long neglect of the case. In the treatment of empyema, Dr. Barnes speaks highly of paracentesis. He reports three cases; in one necrosis of the parietal pleura occurred; a double opening was made and a drainage-tube inserted, and the cavity washed out by a weak solution of carbolic acid. The third, one of traumatic origin, was complicated with pneumonia. After recovery, the affected side in the first case measured $\frac{1}{2}$ of an inch, in the second $1\frac{1}{4}$ inch, less than the sound side. Dr. Barnes considers that the danger of purulent transformation is entirely obviated by the perfection of the instrument used, entrance of the air into the cavity of the pleura being thereby prevented. He thinks in left-sided pleurisies operation should not be long delayed, and in all cases where dyspnœa is urgent there is more danger in delay than in operating. He makes a rule to operate at once, without waiting for urgent dyspnœa to set in, in cases when the chest is two parts filled with fluid; but if but half full he waits, and tries the treatment by rest and iodine applications and diuretics, which is frequently successful. He recommends the use of Potain's aspirator, and that the puncture should be made in a perpendicular line with the angle of the scapula, in the eighth or ninth interspace, and an inch and a half above a horizontal line drawn through the lowest point at which the respiratory murmur is distinctly heard on the other side. His practice is also to withdraw as much fluid from the chest as possible. For after-treatment, he recommends iodine applications externally, and diuretics.—*London Med. Record*, Jan. 15, 1878.

Digitalis and Morphia in Heart Affections.

In his *Journal de Thérapeutique* for January 10, Prof. GUBLER sums up as follows the conclusions of an elaborate paper on "The Comparative Indications of Morphia and Digitalis in the Course of Organic Affections of the Heart:" "1. Digitalis, the moderator and regulator *par excellence* of the circulatory rhythm, increases the energy of each systole in proportion as it brings about a diminution in the number of the cardiac revolutions. This result may be expressed in an arithmetical formula in these terms: The force dispensed by the heart in the unity of time being relatively constant, the absolute value of the fraction is so much greater as the denominator is less. 2. By means of this *cohibition*, with or without the aid of directly hypercinetic or even corroborant action, the probable existence of which has not been demonstrated, digitalis becomes a precious agent in special tonic medication in some subjects of nervous palpitation, and in most of those who have organic disease of the heart. 3. Its success is, so to say, assured as long as the asystolia depends upon disorder of the cardiac innervation, and on the ill-directed employment of the contractile force of the myocardium. Now, this *cardiac ataxia* is the normal condition of organic lesions of the heart in the early periods of their development, and it persists not only in the more advanced anatomical stages, but often also amidst the general complications which aggravate the symptoms in the gravest cases. 4. Nevertheless, a time comes when the asystolia is no longer the mere effect of the too rapid succession of more or less abortive, and consequently inefficacious, efforts. The debility becomes fundamental, and Bouillaud's *folie du cœur* gives place to powerlessness. Then the reign of digitalis is over, and that of direct or indirect tonics, of *dynamophores*, and of stimulants commences. 5. Among all these remedies, the first place, without contradiction, belongs to opium and some of its principles, morphia especially possessing remarkable efficacy against the accidents resulting from cardiac paresis, which I designate *cardioplegia*. 6. By arousing the vitality of the capillary network, stimulating hæmatosis and the act of nutrition, it favours the increase of force in general, and especially that of the excito-motory force of the spinal bulb, and of the conductibility of the nervous cords which issue from it. It contributes also to keep up the circulation and the other great functions in consequence, by the calm it imparts to the sensibility, and the moderation it consecutively restores to the rhythm of the movements of the heart. Again, it acts in the same direction by its hypnotic power, as sleep suppresses much expenditure, and as the *soporal congestion* is an anatomical condition extremely favourable to the restoration and nutrition of the nervous centres, very poor in capillary vessels. 7. If we are well informed as to the different aptitudes of digitalis and morphia, and if careful clinical analysis enables us to seize the two principal pathological conditions to which these great medicaments correspond, still, in spite of this, science is far from being able to guide us surely in the choice of the appropriate remedy in each particular case. What are the signs by which the practitioner may recognize that he ought to have recourse to opium rather than to digitalis? or, which in our opinion comes to the same, what are the differential characteristics by which he can distinguish *cardioplegia* from *cardiataxy*? 8. Digitalis is evidently indicated in simple lesions of the orifices and the valves, even when these are advanced, provided these exist in young persons otherwise well, or in more aged subjects who are as yet exempt from the general changes in the economy embraced under the term cardiac cachexia. Doubt commences when the asystolia is accompanied by grave complications, as anasarca, dropsy, albuminuria, cyanosis, orthopnœa, etc. In such cases we must proceed only tentatively. The same may be said of purely nervous palpitations, which, like

the secondary circulatory disorders of organic lesions of the heart, may doubtless be divided into sthenic or irritative, and asthenic or paretic, between which their apparent characteristics do not allow of our distinguishing. 9. In doubtful cases it is digitalis which presents most chance of success, since it has been found to succeed when all hope seemed lost; but it must be given with caution and watching, so that it may be stopped in time if contraindications present themselves. 10. The following rules should be observed in its administration: Preference should be given to digitaline or to the tincture of the Codex, as other preparations are less efficacious and less safe. Infusions, whether in cold or warm water, possess too great nauseating or even cathartic power to allow of their being used in heart affections. Digitaline, however, should not be given in the pill form, but in an alcoholic solution properly diluted; two milligrammes per gramme being a sufficiently concentrated alcoholic solution. 11. The mean dose of the tincture of the Codex is represented by ten drops; that of amorphous digitaline is one milligramme, or fifteen drops of alcoholic solution; and of the crystallized digitaline one-quarter milligramme, or four drops of the solution. This may be repeated two or three times in the twenty-four hours—the daily dose attained of the tincture being twenty to thirty drops, of the amorphous digitaline forty-five drops, and of the crystallized twelve drops. These doses need hardly ever be exceeded. 12. The digitalis should be given at a distance from the meals; and if the stomach is intolerant of it, it should be combined with tincture of cardamoms, essence of mint, etc. If in place of amending after the early doses, the anxiety increases, and the pulse becomes small and irregular, it should be suspended for two days, and then tried combined with opium and aromatics; abandoning it altogether if this association does not succeed. Although its beneficial effects are not observed until about the third day, yet the digitalis should not be prolonged beyond five or six consecutive days, for fear of toxical effects being produced by accumulation. 13. In organic disease of the heart, uncomplicated with grave lesion of the aortic bulb, and especially of the arch of the aorta, we may say that the later employment of opium coincides with the withdrawal of digitalis. Morphia may render assistance when the resistance of the economy becomes enfeebled. Its indication increases with the cachectic symptoms, and it becomes urgent and inevitable in the ultimate periods of the disease, when paralysis progressively invades the central apparatus of the circulation as the prelude of death. In cardiac affections morphia is the last safeguard of the patient and the *ultima ratio* of therapeutics. 14. But the indication of morphia is much more early in the course of aortic alterations, whether independent or complicated with lesions of the heart itself. It exists sometimes before the appearance of rational symptoms of the affection, often prior to any cachectic alteration, and almost always in the slightly advanced stages of the malady. In the first category it is required to assuage the acute pain of *angor pectoris;* in the second it serves to palliate the effects of the distension and wearing away of nervous branches by aneurismal dilatation of the aorta; and in the third it combats alike this paralysis from local cause and the paretic condition which results from the insufficient restoration of the centres of innervation, as well as the injury done to the sanguineous crasis and general nutrition. 15. Except the painful complication alluded to above, all the other conditions call for exclusively the stimulant and indirectly corroborative action of opium, and opium exhibits this only on the condition of being administered in small and frequent doses. Moreover, in order not to increase the existing torpor of the digestive organs, it is also desirable to employ it hypodermically. 16. The dose of the chlorhydrate of morphia should at its maximum be only 0.01 centigramme to commence with, and it would be better even to employ only half this quantity. The injections may be repeated two or

three times in the twenty-four hours, continuing them almost for an indefinite time if the circumstances are imperious. 17. But the early doses becoming insufficient, they have to be progressively increased, especially during attacks of asystolia, diminishing them again when the crisis has passed or become appeased. The daily mass of morphia may thus be raised, if necessary, to four, six, eight, or ten centigrammes, distributed over three or four injections, made at equal intervals in the twenty-four hours. 18. These large doses must be continued as long as they are required to keep up the functional dynamism and sustain the economy, or at all events prevent its giving way. The inconveniences of chronic morphinism cannot be placed in balance against the dangers which immediately menace the existence of the patient. 19. In spite of their aptitudes being so different, and their indications in some measure contradictory, opium and digitalis are far from always excluding each other, but often in the transitory phases or complicated forms of diseases of the heart afford mutual aid; as, for example, when the element 'pain' becomes added to the motor disturbances of the organ, or when asystolia expresses not only the precipitation and tumult or ataxia of the heart, but also a certain amount of paralysis or cardioplegia. By contributing to the maintenance of the strength, the morphia injections insure the regulating effects of the digitalis, and at the same time act as a counterpoise to the depressing influence which the latter does not fail to exert as soon as the dose given becomes exaggerated. 20. The simultaneous or successful administration of these two great remedies in nowise precludes our having recourse to the various other means of treatment derivable from hygiene or the materia medica."—*Med. Times and Gaz.*, Jan. 19, 1878.

—

On a Case of Cardiac Neurosis.

In a paper entitled, "Clinical Contribution to the Neuroses of the Heart," published in the *Berliner Klinische Wochenschrift* for November 27, Dr. E. ZENCKER relates the following case.

P., a labourer, æt. 22, was admitted to hospital on July 27, 1876, with symptoms of extensive œdema of the lungs, and enormously increased action of the heart. The respirations were 56, pulse 208, with great orthopnœa and restlessness; the sensorium was not impaired. He stated that on the 24th and 25th July he had been seized with several violent attacks of palpitation of the heart, from which he had in previous years suffered twice. Percussion showed that the limits of the heart were considerably extended. The grave pulmonary œdema was at once treated after the manner of Traube with dry cupping, sinapisms and acetate of lead in doses of nearly a grain every half-hour, also an ounce of infusion of valerian, every hour. After five hours the œdema began to diminish, and the acetate was given only every hour, and subsequently every two and three hours. The pulse and respiration remained the same.

On the 28th the patient showed intense cyanosis, and great orthopnœa; the pulse was small, and could only be counted at the heart. There was extensive cardiac dulness towards both sides; the sounds could not be distinguished, and the lungs showed on the right side some remains of œdema. The sputum was scanty and rusty.

On the 29th the œdema had disappeared, 31½ grains of acetate of lead having been taken in all; otherwise he was the same. In the afternoon the pulse rose to 220 regular beats in the minute, respiration being 52.

On the 30th the temperature was 36.8° cent. (98.24° Fahr.): pulse 204, resp. 44. He passed 1200 cubic centimetres of urine of sp. gr. 1017; no albumen. His general condition was the same; the pulse was scarcely perceptible. Musk was ordered to be given every three hours in three-grain doses. The bowels were

freely moved after about an ounce of infusion of senna; the stools contained blood and much mucus. At night a subcutaneous injection of hydrochlorate of morphia (0.12 grain) was given, with manifest relief to the patient, who towards morning fell into a sound sleep till 9 A. M.

On the 31st the pulse was 92, respiration 28, temperature 37.5° cent. (99.5° Fahr.) The skin was moist and deep-red in the face and about the ears; the senses were clear; there was no cyanosis; the pupils were contracted; the pulse was full and bounding. The left cardiac region of the thorax protruded more than the right; at the systole the thoracic wall about the apex beat was strongly thrust forward; the apex beat lay in the fifth intercostal space, about 1.2 inches outside the nipple, and extending over a space of 1.2 inches; absolute dulness from the third to the sixth rib, and from the sternum to 1.2 inches outside the nipple. At the apex was heard a prolonged rough systolic murmur, which was cut short by the diastole; this was continued to the second intercostal space on the left side, where the diastolic sound was strong, and accompanied by a loud diastolic murmur. At the insertion of the fourth rib on the left side there was a systolic murmur, and an indistinct diastolic sound; on the right side, about the third rib, a systolic and faint diastolic murmur. The musk and valerian were discontinued, and a dose of castor-oil was given.

August 1. Pulse 84, temperature 37.3°, resp. 20; he was very somnolent; the bowels were freely opened; the stools contained chiefly mucus, accompanied by great tenesmus.

August 2. Temperature 36.9° C.; pulse 76; respiration 20. There were moderate facial cyanosis, continuous drowsiness, and impaired sensorium. At the apex of the heart was heard a systolic and diastolic murmur; at the left margin of the sternum, about the fourth costal cartilage, a systolic sound and a weak diastolic murmur; at the right third costal cartilage a loud diastolic murmur, prolonged to the systole, which is also heard over the pulmonary artery with a strongly pronounced second sound. The double murmur was heard in the carotid, and the systolic sound in the femoral artery during expiration. In the afternoon the patient was suddenly seized with violent palpitations. At 6 P. M., after vomiting some dark-brown matter, the heart beats numbered 204, without the least irregularity; respiration 36; cyanosis moderate. A subcutaneous injection of morphia (0.09 grain), and infusion of valerian were given, an hour after which free perspiration set in, and the pulse fell to 140.

August 3. He passed a good night, but vomited violently in the morning. Pulse 180; respiration 28. After a further, but ineffectual, injection of morphia (0.12 grain), he was ordered camphor and valerian.

August 4. Temperature, 36.7° C.; pulse 188; resp. 28. There were great stupor and restlessness; the pupils were dilated; he had marked cyanosis. At 10.45 A. M. 0.15 grain of morphia was injected, and the patient became quiet; the pupils contracted and cardiac action diminished, so that at 5 P. M. the face was bright-red, the pulse 96 and steady. He continued thus until 1 P. M. of the 6th August, when, while raising himself in bed, another violent attack of palpitation set in. Within half an hour the pulse rose to 218; the lips and cheeks were cyanotic; pupils very dilated, acting sluggishly; pulse scarcely to be felt; general and increasing stupor. Musk was first given, and then a subcutaneous injection of morphia, which, however, proved insufficient.

August 7. There was cyanosis; the pulse was much the same; hence a further injection of 0.18 grain of muriate of morphia was given at 10 A. M., and in consequence the pulse gradually sank, very irregularly, in five hours to 170; the pupils contracted; the cyanosis diminished; the skin became moist. At 4.30 P. M. a further injection of 0.9 grain of morphia was given, and by 6 P. M. the

pulse fell to 92–106; the face became deep-red, the pupils were much contracted, and the body covered with profuse perspiration. During the next two days things continued in a more satisfactory condition, the pulse varying from 84 to 64. Infusion of digitalis (1 in 50) was now substituted for valerian, and half an ounce was given every three hours. In the night from the 9th to the 10th, after a change of position, when the bowels were moved, a renewed acceleration of the heart's action set in.

August 10. Pulse 176; respiration 28. At 11.30 A. M., 0.15 grain of muriate of morphia was injected, and repeated five hours later. Profuse perspiration set in during the night. The next morning the pulse had fallen to 84, respiration 22. But at 2 P. M. of the same day—the 11th—a further exacerbation set in, which was the severest of all, and lasted seven days. During this period the pulse fluctuated from 168 to 200; the respirations at one time attained a maximum of 140 per minute; the urine contained traces of albumen, and a few hyaline casts. The treatment consisted of repeated injections of morphia up to 0.225 grain, of sinapisms, dry cupping, musk, valerian, for which was afterwards substituted infusion of digitalis (0.5 to 150). On the 17th the pulse suddenly fell from 188 in the morning to 88 at 10 A. M.; pupils again contracted; the face and neck reddened, especially on the left side. The next day an abundant herpetic eruption appeared on the right underlip. The pulse fell to 76, and respiration to 20 in the minute. The attacks of palpitation recurred, with less severity, on several subsequent occasions, and were mostly occasioned by changes of posture, evacuation of the bowels, or attempts at percussion of the cardiac regions. The heart-contractions manifested at these times a marked irregularity, and were of a double-type, reminding one of the "alternating pulse" (pulsus bigeminus). The injections of morphia were continued (up to 0.24 grain) from time to time, each time affording relief. On the 22d of August the apex-beat lay in the fifth intercostal space, towards the median line, and at each systole the thoracic wall was thrust forward, the elevation extending to four-tenths of an inch to the right of the median line about the fourth intercostal space. At the apex, besides a muffled sound, was heard a loud systolic murmur; over the sternum and to the right of it up to the third rib was audible a loud diastolic murmur, which was also heard on the pulmonary artery along with the marked diastolic sound. On September 2d the cardiac dulness scarcely extended to the left of the nipple, and the apex-beat lay in the fifth intercostal space. The last attack, a very evanescent one, occurred on September 8th. By degrees the patient was accustomed to movements and moderate activity, and his condition improved, so that at the end of September he was discharged well. From the patient's account of his previous history, it appears that the first attack of palpitation and dyspnœa occurred about three years previously, when, while straining to lift a heavy weight, he suddenly fell down unconscious, after which he had similar attacks from time to time, caused by hard work and raising and moving heavy weights. At the same time, through inability to work, he was much reduced in circumstances.

A review of the case precludes the idea of its being due to the aortic insufficiency, and also excludes it from the category of "the weakened heart" of English authors. Nor is it of the nature of angina pectoris, owing to the complete absence of pain. It is rather a hyperkinesis, for the functional action of the heart is unimpaired between the attacks, during which attacks, however, the contractions are greatly increased in number. The facts of the case, the high rate of the pulse, the striking regularity of the heart's beat, appear to point at first sight to a paralysis of the inhibitory centre of the heart as the cause of the several attacks. And yet the real cause of the affection would seem rather to

lie in a stimulation of the excitatory cardiac centres. For, in opposition to an excessive excitation of the motor centres, the inhibitory action may be overcome or exhausted, but not yet paralyzed. We find marked irregularity of the heart's action after the continued use of digitalis, indicating unmistakably an increase in the inhibitory power. This effect of digitalis was counteracted again by the subsequent well-known primary stimulating effect of morphia injected subcutaneously. An almost conclusive argument is furnished by the effect of the vibration and shock of percussion, which on two occasions threw the heart from a state of quiescence into one of exaggerated action.

As to the cause of the increased stimulation of the excitatory cardiac nerve centres; we must look for it in the increased demands upon an already overtaxed muscle, and in the insufficient nutrition.

Notwithstanding the difficulty of determining the influence of treatment on an affection which always tends to terminate spontaneously, we cannot apparently deny the influence of morphia on the course of the several paroxysms. In six of these paroxysms, morphia injected subcutaneously sufficed to produce ease, contraction of the pupil, and a gradual diminution of the pulse to its normal frequency. But on two occasions, and when morphia was not employed at all, the pulse abruptly fell from a considerable height to the normal condition. Traube observed in the second stage of opium narcotism contraction of the pupils and diminution of the frequency of the pulse in consequence of the abnormal stimulation of the regulating cardiac nerve centres. According to Gscheidlen, a moderate dose of morphia is attended at first with diminution of the pulse, followed by an increase and then again by a reduction. Hence we conclude that the pulse-reducing effect of morphia was the result of general bodily repose and consequent absence of all pressure on the aortic system, combined with its influence on the controlling nervous system of the heart. Fresh exciting impulses being thus cut short, and with increasing powers of resistance, the paroxysms terminated.—*London Med. Record*, Jan. 15, 1878.

Smokers' Gastralgia.

M. Revillout reports in the *Gazette des Hôpitaux* two cases of gastralgia attributed to the use of tobacco. The first case occurred in a man aged fifty-two, in M. Vulpian's wards. He had always been moderate in everything except the use of tobacco, had never undergone any privation, had always been able to choose his food, and had been careful in his diet. On six different occasions, he had been seized with extremely acute attacks of pain in the stomach, not extending to the back, and coming on more or less quickly after every meal, bringing on also vomiting of the food. In the intervals of these attacks, of which the average duration was about six weeks, his health seemed tolerably good, with the exception of some vertigo, dazzling of the sight, and weakness of the legs. These troubles were more marked when the patient felt better and smoked than when, suffering with gastric troubles, he had no appetite for anything and temporarily left off tobacco. M. Révillout also reports a case in which a gentleman in good circumstances, following an excellent hygienic system, found his digestive functions gradually failing, whilst his strength diminished. Later on, he was attacked with vertigo, staggering whilst walking, and spasms and prickings in the limbs. After every meal, severe pain was felt in the epigastric region; the face was pale, the speech gasping, the heart-beats uncertain, and the body generally discoloured. This patient smoked from twelve to fifteen cigars daily. Under advice, he reduced this number to two, and immediately a considerable improvement took place. He again took to excessive smoking; but, as the original symptoms returned, he was again obliged to abstain from tobacco. Under medical advice, he

washed the tobacco of which he made his cigarettes in a coffee percolator, by first throwing on it ammoniacal water, then repeated baths of hot water. The nicotine was thus partly dissolved out of, or mechanically removed by, the warm water. The tobacco, when washed, was spread out in the sun to dry on paper, and, thus modified, satisfied the patient, who from that time was not troubled with dyspepsia or vertigo.—*British Med. Journal*, Jan. 5, 1878.

—

On Alcoholic Gastritis in Women.

In a lecture by M. GALLARD, published in his recent volume, *Clinique Médicale de La Pitié*, he treats of alcoholic gastritis, especially in reference to women. In the female sex habits of drunkenness often show themselves, or become exaggerated, at the period of the menopause, which is a truly critical age with regard to drunkenness. M. Gallard cites the case of a woman who showed the most characteristic symptoms of drunkenness without ever having been given to drink; but, for two months before she came under notice, had acquired the habit of taking a few drops of sulphuric ether on a piece of sugar. This fact confirms the doctrines concerning the similarity of action between alcohol, chloroform, and ether. Changes in the stomach are the first observed in chronic alcoholism, and then there supervene changes in the liver and kidneys, which are extremely like those observed in syphilis. As a prophylactic in treatment of alcoholism, M. Gallard, following the example of Magnus Huss, administers the empyreumatic oil to which corn and potato brandies owe their special flavour, and which is known by the name of *fermentoleum solani*. From four and a half to nine doses of it may be given in drops of from three-quarters to one and a half drops; either in draughts or in pills three or four times a day. The therapeutic treatment consists in narcotics, especially opium, alkaline drinks, and hydrotherapy.—*London Med. Record*, Jan. 15, 1878.

—

On the Etiology of Epidemic Catarrhal Jaundice.

Dr. KLINGELHŒFFER (*Berliner Klinische Wochenschrift*, Nov. 26) cannot confirm the opinion of Dr. Köhnhorn, that the cause of epidemic jaundice lies in too great sameness of diet. He observed an epidemic of icterus from Oct. 1874, to March, 1875, among a population of all classes, whose diet was in no way other than usual, and therefore the cause must be looked for elsewhere.—*London Med. Record*, Jan. 15, 1878.

—

Senile Diarrhœa.

Lecturing at the Hôpital Necker upon a case of obstinate senile diarrhœa that could be traced to no obvious cause, M. POTAIN observed (*Gaz. des Hôp.*, No. 138) that sometimes errors in regimen may in these cases be accused, such as the taking inappropriate substances, water in too large quantity or too cold. Gastric catarrh also, by its reflex action and by the vicious secretions, gives rise to the diarrhœa; but it is of especial importance in cases of this kind to seek for general diseases. Of all these, tuberculization is the most important; and what perhaps is not sufficiently borne in mind is, that diarrhœa is often one of the primary manifestations of the tendency to tuberculization. This, too, is one of the most serious forms, because it indicates a disposition to the generalization of the disease, and, moreover, the patient neither eating nor assimilating properly, the accidents pursue a much more rapid course than in other cases. Arthritism has also frequently been put forward in this etiology, and not without reason. It is the same with marsh-poisoning, which is oftener than is supposed the primary cause of this form of diarrhœa. M. Jules Simon, especially, has related some

very curious cases of this kind, the origin of which was proved by the success which attended the administration of quinine, the diarrhœa being the sole tangible symptom. M. Potain has also met with several analogous cases which have been successfully treated by quinine.

So, too, all causes which debilitate the economy are a cause of diarrhœa, and one of the most powerful of these is old age—so much so that the diarrhœa of the aged has been separately described, with its anatomical changes, such as thickening and other alterations of the mucous membrane. In such cases there is little disturbance of the digestion, and no pain in the abdomen, and that even when deep ulceration of the intestines has been found after death. The patients become pale and bloated (*bouffis*); their skin becomes thin; they waste away, and fall into a state of complete apathy—the diarrhœa much resembling, therefore, in this form, that of pellagra. There is nothing special here in the etiology, and all that can be said is, that old age constitutes an extreme predisposition to entero-colitis. In the patient under notice, no other reason than his age can be assigned; yet not his age calculated on the number of years, for these are only sixty-two, but the age he presents in his condition of anticipated senility. It has, indeed, been said long since, with reason, that we are of the age of our arteries; and this man has aged arteries, for they are atheromatous, and, moreover, he exhibits all the attributes of senility. In such cases the prognosis is always a most serious one, and, according to M. Durand-Fardel, the disease is incurable when it has lasted for some weeks. This opinion is certainly exaggerated, but it is a fact that a cure is extremely difficult, because in aged persons we can produce no action of the skin and kidneys which will balance the intestinal function. In this patient, although in his case there was no history of prior marsh-poisoning, quinine has been given with great advantage. It would seem, therefore, that besides its anti-periodic power, the sulphate of quinine, by the property which it possesses of inducing contraction of the capillaries, may diminish the vascularity of the intestines, and modify its secretions.—*Med. Times and Gaz.*, Jan. 12, 1878.

—

On the Symptoms and Diagnosis of Intestinal Obstructions—Case of Carcinoma of the Colon.

Dr. HENSGEN, writing in the *Deutsche Medicinische Wochenschrift* for December 8, remarks that very various views have been held regarding the group of affections comprehended under the general term ileus. Regarded at first in the days of Hippocrates as a diseased condition of the intestine through metastasis of various humours, or of a *materia febrilis*, or of intestinal gaseous accumulations, later observers disregarded the bearing of the pathological processes, and held ileus to be the product of the "molus antiperistalticus," of a primary inflammation, of a reversal of peristaltic action, thus confounding cause and effect. With the sounder pathological observations of the present century, ileus came to be a designation merely for stercoraceous vomiting, or for an intestinal obstruction, with, of course, fecal vomiting. But it is erroneous to assume that obstruction is always accompanied by fecal vomiting. This is impossible in occlusion of the upper portions of the small intestine, nor has it been confirmed in all cases of closure of the large intestine. From this point of view the following unusual case is of interest. A woman, aged 56, had long suffered from cutting pains deep in the abdomen, pain and straining with defecation, the stools often mucous and mixed with blood. At first, constipation varied with diarrhœa, when she often passed yellow purulent masses, mixed with sago-like granules; but in later years constipation became more persistent, often accompanied by nausea, necessitating the use of the enema; by which small, hard, and rounded fecal masses, resembling

sheep's dung, were evacuated. In the end of December, 1876, the abdominal pain grew worse, and the intestines were frequently largely distended by gases. At times a loud noise, like an explosion, could be heard all over her room, caused, probably, by the peristaltic contractions overcoming partial constrictions of the intestine, and allowing the accumulated gases to escape onwards. At the same time the lower bowel continued absolutely closed. This state of things continued for 5½ weeks, during which time there was complete closure of the bowel, and also an entire absence of any escape of the intestinal contents upwards, either fecal or even of gas having a fecal odour. On the 4th of February the patient died with the usual signs of intestinal perforation. The necropsy showed the abdomen full of fluid and semifluid fecal matter. The large intestine was found enormously distended, while the small intestine was not only not distended, but rather somewhat contracted. The descending colon was found completely closed to an extent of 10 c. (3.94 inches) by an irregular, hard, nodulated mass, which proved to be a carcinomatous growth. The ileo-cæcal valve was unaltered. In the belief that there was a cicatricial constriction of the intestine, and probably an accumulation of hardened feces, the treatment consisted of injections of water by means of the enema syringe, but it was found impossible to inject any considerable quantity, and the water was at once forcibly expelled by the bowel. Nor was it possible to determine the seat of the obstruction by the capacity of the bowel for water, as suggested by Brinton (*On Intestinal Obstruction*, 1867); and, indeed, this capacity was found very variable. Subsequently, by means of a long tube, Dr. Hensgen succeeded in carrying an injection of water high up the bowel, without, however, coming upon any obstruction, but also without bringing away a trace of fecal matter. The introduction of this tube (a perforated bougie) was much facilitated by keeping up a continuous stream of water through it while passing it up the bowel. The most striking feature of this case was the long duration of complete closure, namely, forty-four days (the usual period being six to thirteen days), during which time certainly nothing whatever passed through the bowel. The absence of fecal vomiting must be regarded as due to the action of the ileo-cæcal valve, which also sufficiently accounts for the non-distension of the small intestine. The diagnosis of intestinal obstruction is one of the most difficult. In general it must be borne in mind that the symptoms may sometimes point to the existence of obstruction, when, in fact, there is none at all, as, for instance, in same forms of colic, in cases of renal calculi, of acute peritonitis, or acute typhlitis. The history of the case and an accurate physical examination alone can establish the diagnosis. The usual seats of herniæ should be examined, so also the uterus and rectum, the latter by finger and the sound. The outline of the intestines and the extent of distension will often indicate the probable seat of the obstruction. Regard should also be had to the age of the patient, for intussusception is relatively frequent in early years, while in later years carcinomatous growths more generally produce bowel obstructions. But even the existence of carcinoma can only be established by the discovery of an abdominal tumour. When this fails, the diagnosis, as in the present case, must always remain uncertain.—*London Med. Record*, Jan. 15, 1877.

—

On Peculiar Branched Formations in the Evacuations.

In the *Berliner Klin. Wochenschrift* of November 20. Dr. MARCHAND, of Halle, describes some branched coagula which were sent for examination. They had been passed *per anum* by a healthy woman after confinement. They resembled fibrinous casts of bronchi, but were larger, the main stem being of the size of the little finger. From this stem proceeded numerous branches, presenting an

almost dendritic ramification. The smaller branches, which appeared to proceed from the main stem, proved to be glued to it by the copious intestinal mucus, and consisted of a firm substance similar to coagulated fibrin, but presented no appearance of organized tissue. Analogous formations were shown by Dr. Loewe at a meeting of the Medical Society of Berlin, in March, 1876, and were found in the feces of a healthy woman; and recently, precisely similar excreta were sent to Dr. Marchand, which came from a healthy woman on the ninth day after delivery. These proved to be, instead of tube-casts, nothing more than inspissated intestinal mucus. Exactly similar formations were found in the folds of the large empty intestine of a man who died after amputation. The following is their mode of formation. After prolonged inaction of the bowel it is empty, containing perhaps only a few hardened bits of feces. These are covered by tough mucus. In the folds of the bowel they become moulded, and assume the form of branchings, and are expelled the next time the bowel is emptied, with its fluid secretions. Hence their occurrence after confinements.—*London Med. Record*, Jan. 15, 1878.

—

On Multiple Echinococcus of the Peritoneum.

In the *Deutsche Medicinische Wochenschrift*, Oct. 1877, Dr. GEISSEL relates a case of hydatid disease of the peritoneum which was mistaken for a multilocular ovarian cyst. Ovariotomy was resorted to, and followed by death. The patient, Frau Schmidt, aged 46, said she had been passing from the bowel clear water mixed with membranes for 9 or 10 years. On examination, there were all the physical signs of a multilocular cyst. On the 4th Jan. 1877, Dr. Geissel, at the entreaty of the patient, proceeded to the operation of ovariotomy. The incision was made from the symphysis pubis to nearly under the ensiform cartilage, and revealed the fact that the tumour consisted of hydatids of the peritoneum adherent to the abdominal walls and elsewhere; the cysts varied in size from a pea to a walnut. There were two large cysts, each of the size of a child's head, in the middle of the abdomen. Dr. Geissel removed thus 27 small and 2 large cysts. Catgut ligatures were employed to arrest the hemorrhage, which was inconsiderable. Several cysts burst during the operation, and let out foul pus into the abdominal cavity. Death ensued five hours after the operation, which lasted two hours and a quarter.—*London Med. Record*, Jan. 15, 1878.

—

On the Treatment of Infantile Impetiginous Eczema.

Dr. GEORGES LEPAGE has observed in M. Jules Simon's wards the good results obtained in children suffering from eczema by the method recommended by Besnier (*Bulletin de Thérapeutique*, vol. lxxxviii. p. 49), which consists in enveloping the parts attacked with India-rubber cloth. The conclusions of his paper are as follows. 1. Impetiginous eczema is a cause of debility in the child; it therefore requires prompt and active treatment. 2. Treatment by swathing is superior to all other methods. 3. The general treatment is a necessary supplement to the swathing. 4. The practitioner need not dread repercussive phenomena if the therapeutic treatment be carefully conducted.—*London Med. Record*, Jan. 15, 1878.

—

On Febris Intermittens Urticata.

Professor ZEISSL, who had previously doubted the existence of urticaria as a complication of malarial fever, has now been convinced (*Allgemeine Wiener Med. Zeitung*, No. 46, 1877) to the contrary, by the observation of a case in which the eruption occurred thirteen times consecutively during the hot stage of tertian ague. It was absent during the intervals, and during the fourteenth and last attack. The

patient was a single woman, aged 53, did not suffer from urticaria previously, and has not done so since.—*London Med. Record*, Jan. 15, 1878.

On Urticaria and Malaria.

Dr. REZEK, during an experience of eighteen years in a malarial district in Hungary, found (*Allgem. Wien. Med. Zeitung*, No. 48, 1877) that, amongst an average of at least two hundred patients suffering from ague whom he saw yearly, in two or three the disease was complicated with urticaria. He himself suffered from chronic urticaria as a sequela of ague, and was definitely cured by large doses of quinine.—*London Med. Record*, Jan. 15, 1878.

Surgery.

On Calcification of Adipose Tissue.

Dr. EDWARD H. BENNETT, Professor of Surgery in the University of Dublin, records (*Dublin Journ. of Med. Sciences*, Jan. 1878) an account of calcification of adipose tissue, which it is believed has not hitherto been noticed. The change is seated in the connective basis of the tissue and not in the contents of the cells.

Dr. Bennett describes the condition as follows: In the subcutaneous tissue of the anterior aspect of the leg in elderly women, small hard bodies may be often observed—flattened on the superficial and deep aspects, circular in outline, the largest about one-fifth of an inch in diameter, the smallest mere grains. These bodies are freely movable on the deeper tissues and beneath the skin, and are arranged with a rough symmetry in the two limbs; if there be but one or two in a limb, the finger carried over the corresponding part of the opposite limb readily detects even the single specimen. When they are numerous, their symmetry is similar to that of cutaneous eruptions, not absolutely exact, but very nearly so. They occur in thin-skinned, pale bodies, and so can generally be seen before their detection by the hand. I have never seen them associated with varicose veins, or with skin eruptions, or ephelitic markings on the legs. They are most commonly seen in the limbs of the pauper subjects in our dissecting-rooms; but I have seen them in the living also in hospital. They are not the seat of any trouble or pain to the patient, and pass unnoticed by them until attention is directed to them by the surgeon. I have never seen them in the male. In my early examinations of them, I sought for small veins, or varices, as their seat, under the impression that they were phleboliths. I next searched for a lymphatic vessel passing into or connected to them, being still impressed with the idea that they were the result of some vascular obstruction, but I failed to find any anatomical support for such idea.

Adopting the ordinary process for hard, brittle substances, I polished a flat surface on one face of a section made with a fine saw through the centre of the body, and cemented it to a glass slide with old Canada balsam; I then ground away the structure until I obtained a fine transparent section. In this process I learned that the densest part of the structure was at the circumference—the most open and friable at the centre. Examined, after completing the mounting with fluid Damar varnish, the pattern of the thin circumferential part was clearly seen to be that of ordinary condensed connective tissue, forming a capsule for the body, calcified. In it the usual irregular lacunæ, dark by transmitted lights due to gaps in the

structure, were readily seen; septa from the capsule passed irregularly through the structure, themselves calcified and showing lacunæ similar to the outer layer. The arrangement of these parts was such as every one familiar with the microscopic appearances of the compound tissues would recognize as that of the envelopes and septa of subcutaneous fat. In the intervals inclosed by these calcified envelopes and septa the mass of the structure appeared arranged strictly in the pattern of the fat cells, the intercellular substance being calcified and breaking with a brittle, glassy fracture. Fearing error in a single observation, I repeated the process with several specimens, and obtained results exactly similar. I next macerated a fresh specimen in a weak picric acid solution, to which a minute quantity of hydrochloric acid was added. I established in this way the fact that the earth salts were deposited in the connective tissue forming the capsule and septa of adipose tissue, and in the intercellular structure of the fat cells. The decalcified tissue presents the pattern of ordinary fat, with only the exception that the structures out of which the earth salts have been dissolved are thicker than in the healthy tissue. One point further only remains to be stated—the position of the calcified body in the fat lobule; this I have always found to be marginal, never central. I have never seen any such alteration as I have described in lipomata or in any part of the body except that mentioned above.

—

On the Anatomy of the Primary Syphilitic Induration.

AUSPITZ and UNNA (*Archiv für Dermatologie und Syphilis*, 1 and 2 Heft, 1877) find that there are essential histological differences between the soft and hard chancres. The characters distinctive of the latter are hardness and chemical change in the bundles of connective tissue, and a peculiar development of the epidermis. The epidermis grows downwards in processes which send out projections horizontally to the skin, and these are subsequently snared and isolated by the growing connective tissue. Masses of granulation-cells penetrate to the horny layer of the epidermis, and are also found in the cutis bounded by tracts of epidermis. The form of the sclerosis depends on the arrangement of the blood-vessels, the process taking its origin from the adventitia. The coats of the blood-vessels are markedly affected, those of the lymphatic vessels to a less degree.—*London Med. Record*, Dec. 15, 1877.

—

Diphtheritis and Tracheotomy.

R. A. KRÖNLEIN contributes (*Langenbeck's Archiv*, xxi. p. 253) in this article many interesting practical facts connected with the treatment of diphtheria, based upon the results of five hundred and sixty-seven cases treated in Professor Langenbeck's wards between January 1, 1870, and July, 1876. Of the five hundred and sixty-seven cases, three hundred and seventy-seven terminated fatally, = 66.4 per cent. A glance at the figures shows that with every year the number of cases increased and the number of deaths diminished. The season of the year appeared to have some influence upon the extent of the epidemic; the smallest frequency was in the month of June, the greatest in October. Putting aside eight cases of adults between eighteen and forty-one years of age, we find that the frequency of the disease became gradually greater from one month upwards, reaching its greatest height at three years of age, continuing at this point up to four years and a half, and then decreasing, until at the age of fifteen or sixteen years there was no case. The younger the patient the greater the mortality. Tracheotomy was performed five hundred and four times, stenosis of the larynx being always regarded as the sole guide for the operation, without regard to the age of the patient or the character of the disease. Of these five hundred and four opera-

tions, three hundred and fifty-seven terminated fatally, = 70.8 per cent. Eighty-five of the operations were on infants under two years of age, of whom eleven recovered, and of these one was but seven months old. Twenty-eight of the cases had their origin in the hospital, and of these eighteen died. A detailed report is given of two hundred and forty-one cases, containing two hundred and ten tracheotomies. When the respiration does not become free immediately after the operation the prognosis is very unfavourable. In forty-six cases where this peculiarity was noticed forty-two died, 91.3 per cent. The cause of this is to be found in the existence of a lobular pneumonia or of a deeply extending croup of the bronchial mucous membrane. When during the operation casts of the branches of the bronchial tubes are coughed up, and the respiration becomes apparently perfectly free, the prognosis is, notwithstanding, unfavorable. The operation was performed even when the children were brought in apparently moribund. There were twenty-two children operated upon in this condition, with a mortality of 90.9. Of the total number operated upon, one hundred and fifty-four died, one hundred with symptoms of asphyxia, the others under symptoms of gradual prostration or of sudden collapse. As a cause of the gradual prostration the frequent occurrence of impediments to deglutition played a prominent part. These the author divides into two classes. In the great majority of cases this difficulty of swallowing takes place at the time of and is caused by the presence of the diphtheritic inflammation in the larynx and by the consequent rigidity through infiltration and exudation of the tissues which are involved in the act of swallowing. The cases that come on at a later period, after the complete healing of the local inflammatory processes, are much rarer, and are then due to a secondary diphtheritic paralysis of the laryngeal and pharyngeal muscles. In fifty cases the tracheotomy wounds took on diphtheritic action, and of these twenty-eight terminated fatally. The method of operation was, without exception, in the latter years, the "tracheotoma superior" of Bose, which offered no insurmountable difficulties even when there existed a goitre. Numerous attempts to confine the diphtheritic process by means of local remedies did not give satisfactory results.—*Boston Med. and Surg. Journal*, Jan. 24, 1873.

—

On the Cold-sound (Psychrophor).

Dr. WINTERNITZ of Vienna (*Berliner Klin. Wochenschrift*, July 9), has designed an instrument, by means of which he secures the advantages of mechanical irritation of the urethral mucous membrane by the metallic sound, combined with the anæsthetic and tonic influence of cold. It consists of a double-current catheter without eyes, the two canals communicating with one another near the point of the instrument. The instrument is introduced into the urethra until its point has passed the prostatic portion, and it is then attached by India-rubber tubing to a reservoir containing water at the desired temperature. On turning a stopcock, the water flows into one canal and out through the other, whence it is conducted away by another piece of tubing. In this way the caput gallinaginis and the entire urethral mucous membrane are exposed to the mechanical action of pressure, and to the sedative action of cold. The success obtained by Dr. Winternitz, by the use of this instrument, was so encouraging from the very beginning, that he has employed it constantly for over a year.

He has treated with it twenty-two cases of pollution. Of these two did not return after the first application; one was improved at first, but soon became as bad as before, and the treatment was discontinued after the cold-sound had been used sixty-five times; twelve are still under observation, and have been somewhat improved by the treatment, that the pollutions occur very rarely, and the secondary symptoms, hypochondria, etc., have entirely disappeared. In three cases the

improvement was marked, when the patients withdrew from observation; in two others the pollutions became less frequent, but the secondary symptoms remained unchanged. The two remaining cases are described in detail. In one, the patient was a Russian officer, forty-six years of age, and the affection was due to excessive venery. The pollutions occurred regularly in the night after coitus, and recurred two or three times a week, when the patient was continent. The cold-sound was used daily for ten minutes with water at 59° F.; during its employment the patient experienced a sensation of pleasant coolness, and the relaxed scrotum contracted energetically. Some difficulty was experienced in removing the instrument. During the four weeks that the treatment was continued, there was only one pollution. The erections became more complete. In the second case the pollutions were frequent, and there were symptoms of excessive spinal irritation. The first introduction of the instrument caused great pain, and brought on an hysterical fit, but these symptoms disappeared after the water (59° F.) had flowed through the sound for five minutes. The treatment was continued daily for three weeks, when the patient was discharged cured. He had not had a single pollution from the time the treatment was begun.

At the first sitting Dr. Winternitz sometimes uses water at a temperature of 64° or even 66° F., and at a later period sometimes goes as low as 54½° F. Besides the above, he has treated nine cases of spermatorrhœa with the cold-sound. In four of these cases he obtained very favourable results; two cases were very markedly improved, while in the other three the treatment was without special results. In the cases of spermatorrhœa as well as in those of pollution, in which the treatment proved successful, general relaxation of the genitals and loss of muscular tone in the scrotum were marked symptoms. The cold-sound was also used in five cases of too rapid ejaculation during coitus, and in two cases of obstinate chronic gonorrhœa. In the former its use was followed by at least temporary improvement, and both of the latter, one of which had lasted three years and the other six months, were cured.—*London Med. Record*, Jan. 15, 1878.

Sayre's Treatment of Spinal Disease.

At a recent meeting of the Clinical Society of London, Mr. BERKELEY HILL brought, for the inspection of the members, a selection of twelve patients with angular and lateral spinal curvature, for which they were wearing Sayre's plaster jacket. In doing this he avoided criticism of the correctness of the theoretical grounds on which Dr. Sayre explained the mode in which the spine was affected, and also descriptive of the method of application, observing that those matters were set forth in Dr. Sayre's Spinal Diseases, etc. He confined himself to the results which had been gained by six months' experience of the mode of treatment. The cases exhibited that evening had been mainly under his own care, but some were from the hospital patients of his colleagues, Messrs. John Marshall and Arthur Barker. Four cases from the Cheyne Hospital for Incurable Children were exhibited by Mr. James P. Bartlett. The cases comprised examples of angular and lateral curvature of various situations and degrees, some wearing the jury-mast to support a curve in the upper dorsal region, one with lumbar abscess and sinus. The first case, treated in University College Hospital after Dr. Sayre had himself demonstrated his method, was put up on July 13th. The patient immediately lost the pain in her back, which up to that time had been too severe to permit of her walking about or sitting up for more than half an hour at a time; and she went for a walk out of doors of her own accord the same day. Two days later she went into the country till November. She at once discarded invalid habits, and in the latter part of her stay nursed a

sick sister. The jacket put on in July was worn till nearly Christmas; it was then removed, and a poroplastic felt corset moulded on to the trunk while the patient was suspended. This did not appear to give sufficient support, as the pain in the back had returned frequently and increasingly. Hence Mr. Hill exhibited the patient wearing her corset—an excellent fit—to show that this material did not embrace the trunk with sufficient immobility to support it effectually. Mr. Hill next read the notes of the second case to which the plaster jacket was applied in University College Hospital, that of July 14, 1877, by Mr. Marcus Beck. This was a case of very acute character and of well-marked symptoms. The patient could not walk fifty yards without his crutches, and only a very short distance with them, on account of the severe pain produced. On being encased he walked out of the hospital easily, carrying both crutches in one hand. One month later he was able to walk nine miles. He wore the shell for three months; it was then removed, and he had remained quite well ever since. Mr. Hill then briefly described the case of the daughter of Dr. Gooding, of Cheltenham, who was encased by Dr. Sayre himself at Guy's Hospital on July 25, 1877. She had been suffering for eight years from injury to the upper dorsal region, causing collapse of the upper part of the column, great protrusion both backwards and forwards, complete inability to stand or walk, constant pain, and, at one time, paraplegia. On Jan. 23, 1878, Dr. Gooding wrote: "She began to improve from the first, and has continued to walk with increasing strength ever since. She has literally had no pain at all. She does her share of play, and goes regularly to school." Mr. Hill then summed up the benefits which six months' experience of the plaster shells had shown. 1. Pain was at once arrested. 2. So far as the spine was concerned, the patient was immediately able to sit upright and to walk about. 3. Control of the lower extremities, when lost or diminished, was rapidly improved or restored. 4. Abscesses steadily closed. 5. The spinal column lost much of its abnormal curve and consolidated in the improved position. 6. In lateral curvatures, a permanent increase of stature was often obtained. 7. Finally, by Sayre's jacket, cure was more rapid and less irksome than by any other method. Mr. Hill remarked that caution was necessary to prevent the patient attempting too much exertion; even when thoroughly supported in the shell, most patients required rest through some part of the day. In conclusion, Mr. Hill mentioned several small modifications in the method of application, which had been found to be improvements. The chin-piece should be more deeply cupped at the chin and well lined with thick felt. The suspending straps should be attached just in front of the zygoma and behind the ear. The axillary slings should be padded firmly and stiffened so as to take the form of the cross of a crutch. To receive adult or heavy patients from the gallows without risk of bending the plaster shell before it had set, Mr. Hill had contrived a table, swinging at its middle like a toilet looking-glass. This, carrying the slack air bed, could be pushed against the patient while suspended; two large hooks were slipped under the armpits and hitched to the top of the table. The patient, thus attached to the table, was freed from the gallows. The table was lowered from the vertical to the horizontal position, and the patient sank without strain or jolt into the slack air bed, which supported the plaster evenly on all sides till it set. Messrs. Mayer and Meltzer, who had constructed the table, had also made a light folding frame to answer the same purpose. To cut up or trim the plaster shells, a small carpenter's dovetail saw and a pair of French vine-dressers shears were the handiest tools.

Mr. T. SMITH thought the table a valuable adjunct. He had seen a good case spoilt in being taken down. In a private house he had found a narrow leaf of the dining table sufficient to answer the same purpose. He had adopted another improvement in substituting air-pads for the cotton-wool between the mammæ and

over the abdomen. The advantage of such pads lay in the fact that they could be inflated or emptied at will, each pad being provided with a vent and stopcock. He considered Dr. Sayre's method one of the greatest improvements in the treatment of spinal disease that had been made for many years. Mr. CLEMENT LUCAS had now pursued the method in twelve cases, four of which were cases of lateral curvature, and had not met with any inconveniences or any instances of pain inflicted in this series. He had, however, to remove the bandage in three cases—once on account of the development of psoriasis over the whole of the surface covered by the splint. This was a case of lateral curvature, and the splint had been worn for three weeks. In another case there was desquamation of cuticle over the covered parts; and in a third he had to remove the bandage in consequence of pediculi. He had not met with any pressure-sores, which he attributed to the bad application of the splint; and he denied the assertion that had been made that the treatment was unscientific and led to disastrous results. Mr. BARWELL claimed to be the first to adopt the method in this country, and he had now put it in practice in a large number of cases. In only one case had he been obliged to take the bandage off; this was in consequence of difficulty in breathing induced by it in a very young child with a large abdomen. He agreed with Mr. Hill that the spine is never got straighter than it is made by the first suspension. For supporting patients in removing them from the gallows, Mr. Barwell uses a small sofa or sheet. He had substituted a cross-bar instead of a straight-bar, used as a suspender by Dr. Sayre. He did not find it necessary to pad the spinous processes, but whilst the bandage was moist he made a slight interval at each side of the spines. Wool pads in the axillæ and between the mammæ were essential in females. He mentioned the case of a man thirty-three years of age, an asthmatic, and the subject of angular curvature. After application of the jacket he lost his asthma.—*Lancet*, February 2, 1878.

—

A Case of Spina Bifida Successfully Treated by the Injection of Iodine.

At a late meeting of the Clinical Society of London, Mr. A. PEARCE GOULD read the notes of this case. The patient was born with a tumour the size of a hen's egg, situated over the last lumbar and the upper sacral vertebra; this slowly increased in size, whilst the skin over it thinned. When eighteen months old, he was brought to the Hospital for Sick Children. The tumour was then of the size of a cricket-ball, sessile, with all the usual characters of spina bifida; an opaque band was seen along the middle line of the lower three-fourths of the tumour. There was no paralysis or other deformity. The head was large; the fontanelle was widely open, becoming bulged when the tumour was compressed. September 18th, 1877, the tumour was tapped with a small hydrocele trocar at the upper part just to one side of the middle line; six drachms of fluid were removed, and half a drachm of Morton's iodo-glycerine solution was injected, the opening being closed with collodion. For the first few days all promised well; the tumour appeared to be firmer, smaller, and less translucent; but at the end of a fortnight it had returned to its former condition. October 5th, the operation was repeated, one drachm of the iodine solution being injected. But this was attended with the same result. On November 5th, it was injected for the third time, two ounces and a half of fluid being removed, and two drachms of the solution injected. The sac became very tense, red, hot, and tender; fluctuation persisted for a week, but on the ninth day a marked change was noted; the tumour was smaller, flaccid, elastic, but not fluctuating, and it did not become tense when the child cried. The wall of the sac became gradually firmer and thicker, and the tumour shrank. On December 14th, there being still distinct

fluctuation in the now thickened cyst, it was again tapped and emptied by the removal of six drachms of a yellow viscid highly albuminous fluid; it was evident that the communication with the spinal canal was completely obliterated. One drachm of the iodine solution was injected into the sac, and well manipulated, and then allowed to escape. The tumour had since then gradually shrunk, and now presented a thick pad of skin, quite dense at the lower part, softer above, where there was a small spot which still fluctuated; from this Mr. Gould withdrew about half a drachm of yellow turbid fluid two days ago There was no paralysis. The fontanelle was closing up. After each operation, the temperature rose from 101 deg. to 102.8 deg., and continued above the normal from two to six days; there was no convulsion or other sign of interference with the nervous system. The after-treatment consisted in thickly smearing the tumour with collodion each morning, and supporting it with wool and a bandage. The tumour evidently communicated very freely with the spinal canal, and most probably contained the spinal cord or nerves. Mr. Gould had examined twenty-three specimens of spina bifida, and had found nerves in the sac twenty times, two cases in which they were absent, and one case in which their presence was doubtful. The nerves or cord generally occupied the middle line—the position of the opaque band seen in this case. The absence of paralytic symptoms by no means favoured the opposite view. The fluid removed at the first three operations was colourless, becoming slightly turbid on standing, of specific gravity 1011, faintly alkaline, containing a trace of albumen, chlorides, and phosphates. With Fehling's copper solution, it gave no reaction; but Dr. Dupré analyzed it, and after concentration was able to get distinct evidence of the presence of sugar. Because sugar could not be detected in the fluid of spina bifida, and in that escaping from the skull in cases of fracture, it must not therefore be supposed to be absent, unless the tests be applied to the fluid after evaporation. Dr. Morton's treatment had now been employed several times; and in twelve out of fifteen published cases with success. As to the value of the glycerine, Mr. Gould stated that on pouring some of the "iodo-glycerine" on some of the cerebro-spinal fluid in a narrow glass, it was found to sink to the bottom at once, and not to mix with it; and he was of opinion that the same thing occurred in injecting the tumour, for the fluid that oozed from the puncture after the injection was quite unstained with iodine, and the action of the injection had been much more potent at the lower part of the sac. Although the mode of cure resembled that seen in the radical treatment of hydrocele, there was an important difference in the two conditions, the one being a closed sac, the other communicating with a canal full of fluid. As to the fear that the inflammatory material would press injuriously on the contained nervous material, it was noted that in none of the published cases had consecutive paralysis been noted, and a specimen of Sir A. Cooper's in St. Thomas's Hospital Museum, described in his paper in vol. ii. of the *Medico-Chirurgical Transactions*, showed that the radical cure might take place in this way when the cord was in the sac without nervous symptoms. Mr. Gould had considerable difficulty in stopping the oozing of the cerebro-spinal fluid, which was so dangerous if allowed to continue.

Mr. CALLENDER said that an important subject had been brought before the Society by the full and exhaustive narration of a case by Mr. Gould. With reference to the mode of operation, he might suggest that it would be found useful to introduce the trocar and canula through and beneath the skin some little distance to the side of the tumour. In this way, direct puncture of the sac was avoided, and the valvular puncture permitted subsequent compression (after the removal of the canula) to prevent the escape of fluid. Whilst discussing the subject of the treatment of spina bifida, it would be of interest if members would

give their experience as to the age to which patients might live, despite the deformity. For some years a gentleman had been under his care, who had been originally attended by Sir Astley Cooper. He wore to the last a protecting case, removed from time to time, after the model suggested by Sir Astley Cooper. In this instance there was bladder trouble, the rectum acted imperfectly, and innervation of the lower extremities was incomplete. Yet this patient lived an active professional life, and reached the age of seventy-four years. Mr. Callender added that he believed this to be the greatest age ever attained by any one afflicted with a spina bifida.

Mr. MORRANT BAKER said that he had employed Morton's solution for the injection of a spina bifida in an infant two months old, who was under his care at St. Bartholomew's Hospital about eighteen months ago. The solution had been prepared according to the usual formula, and was injected with the usual precautions. The local effect was good; the sac becoming thickened after the second injection, and giving no further trouble. But, at the same time, loss of power of movement and of sensibility was noticed in the lower extremities; and this had remained to the present time. Mr. Baker thought the case should be mentioned, as it might elicit the experience of others on the subject; and would show that the injection of the iodo-glycerine solution, even when locally successful, was not without its dangers.—*British Med. Journal*, Feb. 2, 1878.

—

Osteotomy in Rickets.

At a late meeting of the Clinical Society of London (*Lancet*, Dec. 22, 1877), Mr. BARWELL showed a case in which he had operated for rickety deformity of the tibiæ. The operation was performed with Volkmann's chisel, and with antiseptic precautions, the limbs being afterwards put up in plaster-of-Paris. The temperature had never risen above 100°, which it reached the night after the operation. Mr. Barwell referred to the operation described by Mr. Howard Marsh in the Medico-Chirurgical Transactions, in which the bone was cut through with a saw, and in one case a wedge-shaped piece of bone removed. This procedure was more severe than that adopted in the present case. In this case one tibia was divided on Oct. 25th, the other on Nov. 1st, and although the deformity is now almost entirely cured, the child does not walk well at present. Mr. Barwell showed also a photograph of a case of extremely bowed legs, in which, on April 12th, he divided both the tibia and fibula with the chisel at the junction of the lower and middle third, and then put the limb up in plaster. On May 3d he divided the femur in the same way, and six weeks after the operation the patient was able to walk about. Complete recovery was, however, retarded by her sustaining a fracture of the right thigh.

Mr. HOWARD MARSH said that Mr. Barwell did not seem to have understood the differences in the two operations he had described in the Medico-Chirurgical Transactions. In two cases he divided the bones by the small saw, but in the other case—one of extreme forward bending—the angle of the bend was cut out. That procedure involved the effects of a compound fracture. In the two cases in which the slighter operation was performed, the temperature did not rise above 100°, except once, when it was 101°. Mr. Marsh did not think the patient shown by Mr. Barwell to be bad enough to have called for operation, and as her walking power did not seem improved, he supposed the operation was undertaken solely to relieve the deformity. The longer he watched cases of rickets, the more he was persuaded that even badly-curved limbs become straightened under the use of splints, administration of cod-liver oil, etc. A child with marked deformity at two years of age would have straight legs at four, there being almost a spontaneous tendency towards straightening.

Mr. HOWSE said that operations for rickety deformity were only applicable to extreme cases; and it was to those that Mr. Marsh, in his paper, restricted it. None of the speakers had laid stress upon that kind of oblique deformity—a combination of the anterior and lateral curves—in which splints could not be well applied, but which was readily met by operation. Treatment by mechanical means lasts over years, and the elements of time in the treatment of them often of the highest importance to patients, especially the poor, was too much neglected by surgeons. Four out of five cases of the double curve in the tibia he had referred to, on which he had operated, did well; in the fifth, a child twelve years old, he removed a wedge-shaped piece of bone, which was dense and ivory-like. The case took long to recover, but the limb is nearly straight, and the child can walk well.

Mr. BARWELL admitted that time and rest would do much for diseased joints. He restricted the performance of osteotomy in rickets to those cases in which the deformity was very marked. He gave Mr. Marsh the credit of being the first to introduce this operation. He thought both his own cases showed its value. He should deprecate it when the bone could be straightened by simply bending it.

Gonarthrotomy.

Dr. J. SCRIBA, of Freiberg, in a contribution on gonarthrotomy and its indications (*Berliner Klinische Wochenschrift*, Nos. 32, 33, 1877), advocates the practice of free incision and drainage, under strict antiseptic conditions, in the treatment of various forms of diseases of the knee. In support of his views as to the efficacy of this plan of treatment, the reports of twelve cases are given. Seven of these were cases of acute suppuration of the joint. In four of the seven cases there was a good recovery, with perfect mobility of the joint, and in the remaining three cases the result was fatal. In one of the successful cases the suppuration had been due to acute rheumatism, in two to injury, and in the fourth to chronic disease. The joint-affection in two of the unsuccessful cases was the result of acute phlegmonous erysipelas, and in one of caries. The eighth case, one of hydrops articuli, was a successful one. The remaining four were cases of fungous inflammation of the joint, of which three, in consequence of complications of caries and tuberculosis, terminated fatally.

The following are some of the chief points of interest in the author's remarks on the indications for gonarthrotomy under antiseptic conditions. This practice should not be carried out, save as a last resource in cases of acute serous gonitis. It is indicated in cases of acute purulent gonarthro-meningitis, in order to prevent ulcerative destruction of the epiphyseal cartilage; and should be carried out also where there is osteomyelitis of one or both epiphyses; so that, through drainage, the risks of pyæmia, pneumonia, and other acute infective diseases, may be diminished. Gonarthrotomy is not so urgently and promptly demanded in cases of acute intra-articular suppuration due to injury, and to acute gonorrhœal rheumatism. Here the progress is more favourable, the affection being usually less acute and uncomplicated by severe general phenomena. In the treatment of cases of chronic inflammation of the articular synovial membrane of the knee-joint, free incisions with drainage are to be preferred to the injection of irritating agents into the synovial cavity. In those forms of fungous gonitis, in which fluid secretion is a much more predominant element than fungous growth, and in which the cartilages are still intact, gonarthrotomy, in the author's opinion, is the only rational method of treatment. In those forms in which fungous degeneration is well developed, so long as caries is not present, the joint should be incised and drained whenever a spontaneous opening is threatened, and after unsuccessfu treatment by prolonged rest. In cases of fungous gonitis, complicated with

caries, no proceeding short of resection is likely to prove of any service. Incision with drainage and gouging away of the diseased portions of bone can be justifiably practised only under certain conditions. The patient must be young, the lesion strictly local, and uncomplicated with tubercle in the joint or in any remote organ. The author is strongly opposed to the practice of gouging away carious bone from a diseased joint in an adult; and regards such a proceeding as a useless attack on the strength of the patient. He is of opinion that in early stages of fungous knee-disease, and when the bones are not diseased, resection should not be performed. It is laid down as a law that, the earlier the stage of fungous inflammation of the knee with which the surgeon has to deal, the better are prospects of enabling the patient through gonarthrotomy, to retain an useful and movable joint.

In conclusion, Dr. Scriba insists on the importance, in cases of convalescence from disease of the knee, of commencing passive movements at an early period. In two of the reported cases the leg was flexed, and extended immediately after the removal of the drainage-tube; and subsequently at every change of splint and dressings. As soon as the wounds are closed, more frequent and active movements should, it is stated, be effected, and the patient be allowed to stand up.—*London Med. Record*, March 15, 1877.

—

Treatment of Congenital Club-foot by Subperiosteal Removal of the Astragalus.

L. Vereb§lyi describes in the *Pester Médicin-Chirurg. Presse*, No. 14, 1877, the case of a child, aged 5½, the subject of congenital club-foot affecting both limbs. Tenotomy and the application of a plaster-of-Paris bandage having failed, the astragalus of one foot, which presented the principal obstacle to reduction, was laid bare by an incision, and, the periosteum having been stripped off, was removed. The foot was then brought into proper position, in which it was retained by a fenestrated plaster-of-Paris bandage, and afterwards by a proper apparatus. After the healing of the wound, the foot easily preserved its proper direction.—*London Med. Record*, Nov. 15, 1877.

—

On the Treatment of Fractures with Cotton-Wool Dressings.

Dr. Monton has, in M. Broca's wards, carried out a series of experiments which have demonstrated that compression made with cotton-wool dressings lessens the power of muscular contraction in a very remarkable manner, and for that reason it is a useful auxilliary in the reduction of fractures. The use of this bandage also obviates the complications which may supervene in compound fractures. Finally, this means allows the delay of the serious operations rendered necessary by wounds. Dr. Monton's conclusions are as follows: 1. Fractures may be reduced, and kept in place by cotton-wool dressing. 2. Cotton-wool dressing is exclusively indicated in fractures with communicating wounds in hospitals, and all other localities where the air is vitiated by overcrowding. 3. The same dressing gives the power of delaying operations actually contraindicated by the state of the patient, with advantage both to him and to the surgeon.—*Lond. Med. Record*, Dec. 15, 1877.

—

Fracture of the Os Calcis by Muscular Action.

Mr. J. W. Anningson, of Burnley, records (*British Med. Journ.*, Jan. 26, 1878) the following case of this very rare accident. In December, 1876, M. N., a spare healthy woman, aged 42, while leaving a shop, made a false step, forgetting that the shop and street were not on the same level. The street slopes very much, so that the depth of the doorstep down into it varies from three and

a half to eight and a half inches; and probably the woman strode off a height of not more than six inches. She was sober, and not carrying any weight. She exclaimed, "I've put my ankle out." She did not fall, but without assistance limped home, a distance of about a hundred yards. She had never injured the part before. On examining her shortly afterwards, a fragment of bone, with the skin tightly stretched over it, was seen at the back of the leg, two inches and a half above the point of the heel. Below this, the cord of the tendo Achillis was wanting. The lower edge of the fragment was a little above the level of the lower end of the internal malleolus. It was about one inch transversely, and had been torn off the posterior surface of the os calcis, where a cavity could be felt. The whole depth of the bone had not been torn away, but only the upper three-fourths; and the inferior edge of the fragment had been tilted backwards so as to project against the skin. This edge could be bent down for a quarter of an inch; but, on leaving off the pressure, it sprang back again. The skin was not bruised, and there was no other injury.

The usual treatment for ruptured tendo Achillis was adopted, and in about eight weeks she was able to walk without limping, and only complaining of some loss of spring. Two days after the accident, there was great swelling, and the skin over the fragment was so tight that tenotomy suggested itself; but there appeared this objection, that, if the tendo Achillis were divided, the torn-away piece might be left without sufficient vascular supply. A few days later, a small slough formed, leaving a superficial ulcer of the size of a shilling, which soon healed under red lotion.

Midwifery and Gynæcology.

Parturition obstructed by Carcinoma of the Cervix Uteri.

In the *Archives de Tocologie* for December, 1877, is related the case of a patient, thirty-seven years of age, in whom pregnancy was complicated by encephaloid cancer of the whole circuit of the cervix, as well as of the vaginal walls. She had previously had five children, the last six years previously. Since the last delivery, menstruation had been painful. Emaciation had been progressing for two years. The last period occurred on March 3d, 1877, and no discharge, either sanguineous or leucorrhœal, took place until the third month of pregnancy. At that period, slight hemorrhage took place for three days. It recurred a fortnight later, and was followed by a slightly sanguineous, non-fetid discharge, which was continuous for three weeks, and afterwards reappeared on the slightest provocation. The patient was admitted into hospital under M. DEPAUL on August 22d. Emaciation had then become extreme. There was a loud anemic bruit in the carotids and over the heart, and she was suffering violent lumbar pains. The uterus was found to correspond to about five months' pregnancy. The finger introduced into the vagina was arrested by an irregular bossy mass, readily bleeding, which proved to be the anterior vaginal wall invaded by cancer. The whole circuit of the vagina was occupied by prominent cancerous masses, which rendered it difficult to reach the cervix. The cervix itself was degenerated in its whole circuit. The enlarged anterior lip was separated from the posterior by a deep cleft. After a fortnight the patient left the hospital, but returned on October 9th, the cancerous masses being in much the same condition. A sanguineous discharge continued, but had not much smell. On the morning of October 29th, that is to say, in the middle of the eighth month of pregnancy the membranes

ruptured, and vigorous pains soon followed. The same evening no alteration could be discovered in the condition of the cervix. On the morning of the 30th the head remained above the superior straight; the fœtal heart was becoming slow and irregular. The pulse 116, temp. 40° C., but the patient's condition did not seem to call urgently for interference. M. Charpentier, who was representing M. Depaul, though it advisable to wait, having experienced the bad results of operative interference in such cases from laceration of cancerous tissue. In the evening the uterine contractions becoming progressively more powerful, had at length produced a slight dilatation of the external os, which had the diameter of a five-franc piece. The cervix formed a canal two centimetres in length, the internal os being somewhat less dilated than the external. The fœtal heart sounds could no longer be heard. On the morning of the 31st the head was found at the vulva, and a dead fœtus was expelled at 8.30 A.M., after a labour of forty-five and a half hours. It weighed 2080 grammes. No hemorrhage occurred after the expulsion of the child, or after that of the placenta, which took place normally. After delivery pulse and temperature did not rise again to the level reached during labour, and convalescence took place favourably. On November 2d the discharge became so fetid that the ward where the patient was had to be emptied, and antiseptic injections were of little avail to modify this condition. On November 5th, hemorrhage took place to the amount of 500 grammes, without apparent cause. The vagina was syringed with a weak solution of perchloride of iron, and plugged with tampons dipped in a stronger solution. The pulse was 120; temperature 38.9° C. On the 7th, the hemorrhage had almost ceased, but the fetor of the discharge continued. From this time she progressed, but still continued in a state of great weakness. On her departure from the hospital, on November 28th, it was ascertained that the cancerous masses were in much the same state as before delivery, except that laceration had occurred, producing deep clefts at several points in the circumference of the cervix.

—

The Operative Treatment of Abdominal Fœtation.

In the *Archiv für Gynäkologie*, Band xii. H. 1, Professor Gusserow relates a case of extra-uterine fœtation in which secondary gastrotomy was successfully performed. The patient was thirty-four years old, and was admitted on October 30, 1876. She had previously had four children, the last in 1875. The last delivery was followed by para- and perimetritis, from which, after three weeks' illness, she completely recovered, the effusion becoming absorbed. In May, 1876, she was attacked by rigors, vomiting, and abdominal pain, so severe that she was admitted into hospital, where a diagnosis of acute gastric catarrh was made. Meanwhile, menstruation came on normally for the last time on May 27. After this, she was treated in the hospital for five months for peritonitis. She had severe pains, persistent vomiting, difficulty in micturition and defecation, and the abdomen became enlarged. In July, she became aware that she was pregnant. After two months her condition began to mend, and she left the hospital at the end of September, though still very weak On October 28 she strained herself in lifting a pail, as a result of which she had prolapse of the vagina and slight hemorrhage. In consequence of this she came under observation, and the signs of extra-uterine pregnancy were then made out. The parts of the child were extremely superficial and its movements distinct, and its position being generally rather transverse, the head towards the right. The uterus could be felt in front, enlarged, and reaching three or four centimetres above the pubes. The cervix was pushed forwards and upwards, and behind it was a firm tumour. On December 2, she was suddenly attacked by severe pains, the movements of the fœtus became violent and painful, and its position was for a time somewhat altered. An hour

later she was free from pain, but the fœtal movements and heart sounds had finally ceased. The sound was then introduced into the uterus, and its length found to be ten centimetres. For the next eighteen days the size of the abdomen gradually diminished, and the patient's condition was favourable. On December 20, some pain and hemorrhage commenced, and on the 24th, amid severe pains and considerable loss of blood, a decidua, whose nature was verified by the microscope, was expelled from the uterus. About twenty-four hours later severe symptoms of peritonitis suddenly came on; and after a few days the size of the abdomen had increased, and fluctuation over the limits of the tumours became more distinct than it had ever been previously, while the retro-uterine tumour had also increased.

After being in imminent peril of life, the patient somewhat improved in the early days of January, 1877. Her condition, however, was still so threatening, that gastrotomy was performed on January 7. The abdominal walls were easily separated from the thin and transparent fœtal sac. When this was incised, a large quantity of sero-sanguineous fluid escaped, of which 900 grammes were collected. The fœtus was easily removed, and slight traction on the funis showed the placenta not to be quite firmly adherent. It was situated below and to the right, reaching deep into Douglas's fossa. A part of the sac on the left side, which was not adherent, was united by catgut to the abdominal wall. The lower part of the wound, for a length of five centimetres, was left open, and a drainage-tube, and some strips of gauze left in it by the side of the funis. The operation was performed under carbolic spray, lasting less than thirty minutes, and the patient lost very little blood. The sac was sponged out, and two large old clots removed from it. The fœtus, a female, was macerated, but not offensive. It was 44 centimetres long, and weighed 1750 grammes, and was well-developed, corresponding to about the eighth month of pregnancy. For two days the patient did well, but on the third day, in spite of carbolic injections, and although the operation had been performed under spray with antiseptic precautions, decomposition commenced in the cyst, and high fever set in with it, the temperature rising to 40°.5 C. The cavity was syringed out twice a day with strong solutions (as high as 10 per cent.) of carbolic acid. From the fourth day onwards, fragments of decomposing placenta were removed by forceps, and the retro-uterine tumour thenceforward gradually diminished. Once severe hemorrhage followed the removal of a piece, and plugging of the sac became necessary. The gut sutures gave way easily, and by the fourth day the whole sac lay freely open. When Douglas's pouch had been freed from placenta, on the ninth day, it was punctured from above, and a drainage-tube passed through into the vagina. The febrile conditions, however, appeared to become rather worse in consequence, and a few days later the pulse rose to 160, and the collapse was so great as to call for ether injections. The discharge, however, was gradually transformed into healthy pus, and the patient slowly improved, although, for a long time, the urine contained albumen. By the 27th of March the cavity had closed, and she had already been able to leave her bed on the 20th of February. Meanwhile, however, a phthisis of the right apex, of which there had been slight signs from the first had made rapid progress, and beneath the clavicle there were signs of a cavity.

The author reviews the evidence hitherto extant as to the operative treatment of abdominal fœtation, although he considers that the cases are not to be weighed in proportion to their numbers, especially now that such advances have been made in abdominal surgery. In 1872 Keller quoted nine cases of primary gastrotomy, during the life of the child, out of which seven children and four mothers were saved. Parry, in 1876, recorded twenty cases of a similar kind, out of which eight children and six mothers are said to have been saved. Since then has been

recorded a case of Gaillard Thomas, in which the mother was saved and the child died during the operation; also that of Mr. Jessop, in which both mother and child were saved. Of secondary gastrotomies, after the death of the child, Parry records sixty-two, with thirty-two deaths. Since then operations have been recorded by Cullingworth, Depaul, Boinet, and Duboué, of which only one, that of Duboué, had a successful result. Of cases left to nature, Parry records 247 in which the full term of pregnancy was exceeded, with 125 deaths and 122 recoveries. The great peril of extra-uterine fœtation in its latter stage is shown by the fact that in forty-one cases in which the child lived up to the ninth month of pregnancy, and in which the treatment was expectant, there were thirty-six deaths, while in seventeen similar cases, treated by operation, there were nine deaths.

In view of the frequency with which, in the later months of fœtation, the child suddenly dies, and this occurrence is followed by partial detachment of the placenta, internal effusion of blood, peritonitis, and great danger to the mother, the author concludes that, as soon as the eighth month of pregnancy is reached, interference by gastrotomy should not be delayed. In case of the death of the fœtus he would also operate immediately, before the setting in of those phenomena of false labour, which do not generally occur for a few days. If, however, this opportunity has been let pass, he would decide according to the condition of the patient, and only operate if the issue is likely to be otherwise unfavourable. He believes that the result of operation will be much more favourable when it is undertaken earlier, and not as a last resort, when life is already in extreme danger. Although the author operated in this instance under carbolic spray, influenced by the exigencies of the present fashion, he concludes, from the experimental researches of Wegner as to the effect of carbolic acid upon the peritoneum, that it is undesirable in gastrotomy to use the spray.

A case of primary gastrotomy for extra-uterine fœtation is recorded by Dr. Gervis, in the *British Medical Journal* for December 22. The patient had had eight children, the youngest being a little over two years old. During the last menstruation, ending February 28, 1877, she had unusual pains with vomiting. Since then, up to seven weeks before her admission on August 27th, she had had, every eight or nine days, an attack of uterine hemorrhage, accompanied with more or less sickness and abdominal pain. The body of the uterus was made out in the left inguinal region. Per vaginam, a rounded swelling was found occupying more than the right half of the pelvis and pushing the uterus to the left. It was continuous with a dull and resistant area above the pubes, over which a souffle could sometimes be heard. This was presumed, and, as the event proved, rightly, to be placenta. The fœtus was situated towards the left side; the heart-sounds were most distinct just above, and two inches to the left of the umbilicus.

On September 27th, the patient had a severe attack of vomiting, with great abdominal pain, increasing especially with all fœtal movements, which from this time became excessive, appearing to threaten the rupture of the cyst.

Gastrotomy was performed on November 5, the patient being rather more than eight months pregnant. The fœtus proved to be inclosed only in the membranes, which were very thin and lacerable. In extracting the child by the head, the opening in the cyst was extended very near to the front edge of the placenta. Some hemorrhage occurred at this point, but was checked by two ligatures. The lower part of the cyst was included in the sutures passed through the abdominal wall, but with little hope of their holding on, on account of the soft and thin character of the cyst wall. The funis was brought out at the lower angle of the wound, and a large-sized India-rubber drainage-tube placed by its side, reaching

to the bottom of the cyst and covered by a carbolized sponge. The child could be induced to breathe only with much difficulty, and died about six hours after its birth.

On the day after the operation the patient had some vomiting, and reddish serum was repeatedly withdrawn from the drainage-tube, some also having escaped by the side and soaked the dressings. At 9 P. M. this had, for the first time, a somewhat offensive odour. The following morning the pulse was 140, temperature 102°.5. A considerable quantity of bloody serum continued to escape and saturate the dressings. At 2 P. M. the abdomen was distended, and from this time till her death, at 7 P. M., she gradually sank, the sanguineous discharge never abating.

At the autopsy there were found some few patches of peritonitis, and in the cavity was about a pint and a half of sanguineous serum. The placenta was in such an advanced state of decomposition that its exact attachment could not be ascertained. The right ovary could not be found, but both Fallopian tubes were normal. The uterus measured 7½ inches in length, the lining mucous membrane was shreddy and partially detached. The author considers that death was due to hemorrhage, caused by partial detachment of some portion of the placenta.—*Obstetrical Journal of Great Britain*, Feb. 1878.

—

On Hypertrophic Syphilitic Ulceration of the Cervix Uteri.

The *Annales de Gynécologie*, Nov. 1877, contains an article by Dr. Aimé-Martin, in which he describes a specific syphilitic ulceration of the neck of the uterus, together with hypertrophy of that part. He quotes Tanturri, of Naples, as having first clearly in 1862 drawn attention to this lesion. Dr. Aimé-Martin says that, usually about the third or fourth month after the reception of the syphilitic poison, the neck of the uterus undergoes a specific hypertrophy quite distinct from any other hypertrophy; it then becomes the seat of a slight ulceration on the borders of the os uteri. The ulceration is nothing more than a simple desquamation of the epithelium. Its colour varies from a brick-red to a cherry-colour. It is frequently coexistent with secondary hypertrophy of the tonsils, to which it is analogous. As regards treatment, the disease is not affected by local medication, but readily yields to the employment of general specific remedies.—*Lond. Med. Record*, Jan. 15, 1878.

—

On Removal of a Chronically Inverted Uterus.

F. Nyrop (*Gynäkolog. og Obster. Meddelelser*, Band I.; and *Nord. Medicin. Arkiv*, Band IX.) describes a case of chronic inversion of the uterus, which had come on after labour, and had lasted six months. It resisted all attempts at replacement; and therefore, about a year after the confinement, the inverted uterus was amputated by the galvanic battery. After several attacks of peritonitis, the patient completely recovered.—*London Med. Record*, Jan. 15, 1878.

—

On Climacteric Insanity.

In the *Allgemeine Zeitschrift für Psychiatrie*, Band xxxiv. Heft. 4, Professor von Krafft-Ebing, of Graz, discusses the relations of the climacteric period to insanity. A woman's mind is influenced in three distinct ways by the climacteric. 1. It is natural that at the time of cessation of her sexual functions, all the circumstances of her past life, whether they have been happy or otherwise, should be brought vividly before her, and form the subject of continual reflection; not unfrequently, especially if adult life have been unsuccessful or unhappy, the result of these broodings is painful mental depression or worse. 2. The changed

and often pathological general sensations which accompany the climacteric process of involution often lead to hypochondriacal troubles, the fear of severe bodily disease, such as cancer, etc. The patient's nervousness is also increased by the knowledge that the climacteric is generally admitted to be a period critical to life and health. 3. The psychic functions are directly influenced by the functional and organic physical changes which take place in the body at the time of the climacteric, and which vary from the slightest physiological disturbances to the most severe pathological changes. These three modes of origin of psychic disturbance have all the more power if the central nervous system be already overworked, or perform its functions abnormally.

The ways in which purely physical causes accompanying the climacteric process influence the psychic organ are various, very complicated, and not yet made sufficiently clear. Above all, it must be maintained that the climacteric is not merely a cessation of function and commencing atrophy of the organs of generation, but involves a general disturbance of the whole system, causing changes in the distribution of the blood, consequent alterations in the secretions, etc. The influence of these disturbances on the nervous system is greater if the power of resistance of the latter have been previously diminished by difficult labours, prolonged lactation, or other causes; also if some severe disease coincide with the climacteric, or if the genital apparatus have been long affected with chronic disease.

The concrete possibilities are these: (*a*) Menstruation becomes excessive, causes anæmia and consequent disturbance of nutrition of the cerebro-spinal system; profuse leucorrhœa has the same effect. (*b*) The menses cease suddenly. In these cases, severe disturbances of the nervous system are frequently seen, but the pathogenesis is not clear, even though vicarious hyperæmia be admitted as playing an important part. The same cause (acute disease, fright, uterine affections, etc.) which brings about the cessation of menstruation, may often be recognized as causing the nervous symptoms. (*c*) Uterine diseases, either arising at the time of the climacteric, or pre-existent, but aggravated at this period, exercise (by affecting the constitution, or directly through the nerves) a harmful influence on the central nervous system. (*d*) Neuroses of the genitals (pruritus, vaginismus, etc.), which have been caused by the climacteric, have a like effect. (*e*) There is no doubt that, apart from any local disease or neurosis, the climacteric process, as such, causes disease in, or otherwise affects, the psychic organ in some way not clearly understood, but evidently through the nerves, and only when its functions had previously been to some extent abnormally performed.

The climacteric process always influences in some degree the central nervous system; venous hyperæmia of the mucous membrane of the alimentary canal, with its consequences, is common, and patients are at this time more susceptible to the ordinary causes of disease. Elementary psychic changes are also very common at this period, the patient's character often being quite altered.

Among 878 insane women, Kraffit-Ebing found 60 (6.8 per cent.) cases in the etiology of which the climacteric appeared to have played a part. In 40 of these cases there were previous functional disturbances of the nervous system, either congenital or acquired. In 25, hereditary taint was proved; in 22 it was doubtful, and in 13 it was certainly absent. These constitutional affections were much more frequent as predisposing causes of disease than accidental causes operating at the time of the climacteric itself, *e. g.*, diseases of the uterus or other viscera, various excesses. It seemed to be immaterial whether the patients had borne children or not.

The author does not believe that there is any special form of insanity which can

be recognized as being caused solely by the climacteric. In this he disagrees from Tilt and Skae, but he considers that the climacteric is a predisposing or exciting cause, which in many ways influences the form and course of the disease, thus lending it features which, when observed, would go far to establish the belief that the case was due to the climacteric process.

In the 60 cases the following forms of insanity were observed: Melancholia activa, 4; *Folie circulaire*, 1; acute delirium, 1; a general paralysis, 12; primary delusional insanity (*Verrücktheit*), with delusions of persecution, 36; ditto with religious delusions, 6.

Certain sensations and anomalies of function, which frequently accompany the climacteric, exercise an influence over the psychic organ, partly through the patient's own consciousness and partly by reflex action, in such a manner as to give a peculiar character to the delusions, hallucinations, etc., which are the expression of the psychosis occurring at this period. This is especially true of the last and most numerous class of cases mentioned in the above list.

In all four cases of melancholia, hallucinations of hearing and sensation were numerous; in only one there was hallucination of smell. In all the cases there were delusions of poisoning, and in two *tædium vitæ*. The hypochondriacal symptoms, which have been much insisted on, were absent.

In the 36 cases of primary delusional insanity with prominent delusions of persecution, the influence of the process going on in the genital apparatus on the character of the delusions cannot be denied. In 20 of the cases these last were of a sexual nature; in six cases hallucinations of the sense of smell were observed, the patient either believing that she perceived a stinking smell, or hearing voices which complained of the same thing. The delusion of being physically influenced for evil was noted in ten cases.

Great importance is attached by the author to the hallucinations of smell, and to the delusions of physical persecution, which were always dependent on paralgic eccentric sensations. At present he has never observed these in any case in which sexual functional disturbance was not present, *e. g.*, masturbation, uterine disease. The paralgic sensations are due to irritation of the sensory apparatus of the spinal cord. Looking to the great frequency of hallucinations of smell in onanists, as compared with their great rarity in psychoses generally, it seems that the centres of the sense of smell must stand in close relationship with the genital nervous system, and be easily irritated by excessive excitement of the latter.

In 28 women suffering from the same form of insanity, but which had not commenced at the time of the climacteric, only three were found to have delusions of sexual persecution; not one had hallucinations of smell; and only four had delusions of physical persecution. In all these seven cases, some functional or anatomical anomalies of the genital organs was present. In four cases of pre-existing insanity of the same kind, the character of the delusions became sexual at the time of the climacteric, although they had never been so before. Of the above 36 cases, 32 had hallucinations of hearing, six of sight, six of smell, and two of taste.

In the six cases of insanity with religious delusions, the latter partook of a sexual character, *e. g.*, connection with the heavenly bridegroom, being pregnant with the Son of God.

There were only six recoveries among the whole 60 cases—viz., melancholia, 4; delusional insanity, 2. The bad prognosis in cases of insanity coming on during the climacteric, has already been pointed out by Morel, Griesinger, Schlager, and others.

The treatment is not discussed, but attention is drawn to the favourable influence of large doses of bromide of potassium, in allaying sexual excitement and the consequent paralgic and hallucinatory phenomena; also to the good results

yielded by morphia, when employed against hallucinations of hearing, connected with auditory hyperæsthesia and delusions of persecution.—*Lond. Med. Record*, Dec. 15, 1877.

Medical Jurisprudence and Toxicology.

Phosphorous Poisoning.

A case of no small interest from many points of view has recently occurred at Netley. The following are the particulars: A man named Ball, aged thirty-one, employed as a billiard marker in the officer's mess of the Victoria Hospital, was taken ill on Dec. 11th with pain in the abdomen and retching. He had been drinking hard on the previous night, and his symptoms were attributed to this cause. He recovered to a certain degree, but became jaundiced, and on the 18th, being very weak, he was admitted to the hospital, where he died the next day. His jaundice, together with symptoms referable to his liver, and a history of previous liver disease while sojourning in India, led to a diagnosis of acute yellow atrophy of the liver—a diagnosis which was confirmed by the post-mortem examination, for the liver was found small, soft, flexible, of an intensely yellow colour, and with the liver substance almost entirely replaced by fat-globules. The kidneys were also swollen and soft, and petechial extravasations were seen on the pulmonary and alimentary mucous membranes. The man was buried without a certificate in the military cemetery adjoining the hospital. It appears to be the custom for the registrar to visit the hospital once a week, to obtain the certificates of those who die and are buried in the military cemetery; and under these circumstances it is not always possible or advisable to leave the bodies unburied until the formalities are complied with. A rumour having arisen, however, that the deceased had taken rat poison, the stomach was submitted to a qualitative analysis by Dr. De Chaumont, and phosphorous having been detected, the coroner was at once informed; the recently interred body was exhumed, an inquiry was opened, and the stomach and portions of other viscera were forwarded to the county analyst, Mr. Angell, for examination. Phosphorus in considerable quantities was found in the stomach, and abundant evidence was forthcoming that the deceased had rat poison in his possession, and there were good grounds for believing that he had taken some in a fit of jealousy on the morning of December 11th.

The confusion of phosphorous poisoning with acute yellow atrophy of the liver is of great interest, and it becomes of much importance to determine what are the points to be attended to in distinguishing the post-mortem appearances and symptoms of the one disease from the other. A reference to standard treatises will show that the symptoms, course, and duration of the two conditions are, or may be, almost identical. The fact that the patient was a man militated somewhat against the theory of yellow atrophy. As to the post-mortem appearances, the differences observable in the two conditions seem to be these: In acute yellow atrophy the liver is very small, and this constitutes the most striking feature. The yellow colour appears to be due to bile-pigment; fat, if present, is not observed in any very great quantities; and crystals of leucin or tyrosin are found amongst the degenerated detritus of the liver-cells. In phosphorous poisoning the atrophy is not usually extreme; the colour seems entirely due to fatty change, and leucin and tyrosin are not observable. The question is one of unusual interest, and seems well worthy of a thorough investigation at the hands of pathologists.—*Lancet*, February 2, 1878.

CONTENTS.

Anatomy and Physiology.

Sulpho-Cyanide in the Urine. By Gscheidlen and Munk 97
On the Cause of the Respiratory Variations of Blood-pressure in the Aortic System. By Funke and Latschenberger . . 97

Materia Medica and Therapeutics

Physiological and Medical Effects of Alcohol 98
On the Therapeutic Use of Iodoform. By Mr. Berkeley Hill 100
On the Influence of Iron mixed with Food on the Blood. By Nasse 101

Medicine.

Gonorrhœal Rheumatism. By Prof. Hardy 101
On Disturbance of Sight in Hysteria. By M. Charcot 103
The Ophthalmoscope in Tubercular Meningitis. By Dr. Bouchut 105
On Radiant Heat as a Cause of Insanity. 107
On Writer's Cramp. By M. Gallard . . 109
On Spinal Hemiplegia. By Köbner . . 109
Paralysis of the Right Spinal Accessory Nerve. By B. Holz 110
On the Treatment of Tetanus by Rest. By Prof. H. de Renzi 110
On Occipital Neuralgia. By Dr. Julius Schreiber 111
On Paracentesis in Pleurisy. By Dr. Wilson Fox 112
Digitalis and Morphia in Heart Affections. By Prof. Gubler 116
On a Case of Cardiac Neurosis. By Dr. E. Zencker 118
Smokers' Gastralgia. By M. Revillout . 121
On Alcoholic Gastritis in Women. By M. Gallard 122
On the Etiology of Epidemic Catarrhal Jaundice. by Dr. Klingelhœffer . . 122
Senile Diarrhœa. By M. Potain. . . 122
On the Symptoms and Diagnosis of Intestinal Obstructions—Case of Carcinoma of the Colon. By Dr. Heusgen . . . 123
On Peculiar Branched Formations in the Evacuations. By Dr. Marchand . . 124
On Multiple Echinococcus of the Peritoneum. By Dr. Geissel 125
On the Treatment of Infantile Impetiginous Eczema. By Dr. Georges Lepage . . 125
On Febris Intermittens Urticata. By Prof. Zeissl 125
On Urticaria and Malaria. By Dr. Rezek. 126

Surgery.

On Calcification of Adipose Tissue. By Dr. Edward H. Bennett 126
On the Anatomy of the Primary Syphilitic Induration. By Auspitz and Unna. . 127
Diphtheritis and Tracheotomy. By R. A. Krönlein 127
On the Cold-sound (Psychrophor). By Dr. Winternitz 128
Sayre's Treatment of Spinal Disease. By Mr. Berkeley Hill 129
A Case of Spina Bifida Successfully Treated by the Injection of Iodine. By Mr. A. Pearce Gould 131
Osteotomy in Rickets. By Mr. Barwell . 133
Gonarthrotomy. By Dr. J. Scriba . . 134
Treatment of Congenital Club-foot by Subperiosteal Removal of the Astragalus. By L. Verebélyi. 135
On the Treatment of Fractures with Cotton-Wool Dressings. By Dr. Monton . . 135
Fracture of the Os Calcis by Muscular Action. By Mr. J. W. Anningson . . 135

Midwifery and Gynæcology.

Parturition obstructed by Carcinoma of the Cervix Uteri. By M. Depaul . . . 136
The Operative Treatment of Abdominal Fœtation. By Prof. Gusserow . . 137
On Hypertrophic Syphilitic Ulceration of the Cervix Uteri. By Dr. Aimé-Martin . 140
On Removal of a Chronically Inverted Uterus. By F. Nyrop 140
On Climacteric Insanity. By Prof. von Krafft-Ebing 140

Medical Jurisprudence and Toxicology.

Phosphorous Poisoning 143

Published Monthly, price $2.50 *per annum, free of postage.*

Also, furnished together with the AMERICAN JOURNAL OF THE MEDICAL SCIENCES *and the* MEDICAL NEWS AND LIBRARY *for* SIX DOLLARS *per annum in advance, the whole free of postage.*

HENRY C. LEA, Philadelphia.

THE MONTHLY ABSTRACT
OF
MEDICAL SCIENCE.

VOL. V. No. 4. For List of Contents see last page. APRIL, 1878.

Anatomy and Physiology.

Nutritive Influence of the Nervous System.

The influence of the nervous system on nutrition is one of the subjects to which much attention has, of late, been paid, but of which we know comparatively little. The fact that various disturbances and anomalies of nutrition and growth do occur in connection with nerve disease and injury is well established, but there are many explanations of the way in which these changes are brought about. Some of these are, no doubt, true, and all are possibly applicable in certain cases. The older observations had reference chiefly to the results of division either of mixed or of sensory nerves, such as the rapid destructive changes set up in the cornea and eyeball after section or destruction of the fifth nerve, the disordered secretion of the submaxillary gland after division of the chorda tympani, and the peculiar effects of division of a mixed nerve, such as the median, on the hand. But it has been shown that some, at least, of these phenomena are due to loss of sensation, to loss of vaso-motor control, to changes in power of resistance to the influence of temperature, and to other causes which are not essentially associated with a direct influence of the nerves upon the nutrition. It is, at least, doubtful at present whether the inflammation of the eyeball consecutive to lesion of the fifth is due to anything more than the exposure to irritation and arrested secretion, the experiments hitherto made being contradictory. In the same way the results of section of the vagi in setting up pneumonia, which were formerly cited as evidence of loss of nutritive control, have been shown by Friedlander and others to be equally produced by section of the recurrent laryngeal, and to be due to the entrance of foreign particles into the air-cells. The swollen and glossy condition of the fingers, with loss of balance of temperature and tendency to formation of sloughs, together with the other changes which result from section of the median nerve, are probably, in great measure, dependent on altered vaso-motor control, and are in part comparable to the effect of section of the cervical sympathetic on the ear of the rabbit in Bernard's well-known experiment. So, too, of the muscular atrophy which ensues on section of a motor nerve, and of some of the other changes in the limb which usually accompany such atrophy, of which the ingenious hypothesis of Dr. Vivian Poore of loss of reflex tonicity seems to afford the best explanation.

But over and above these changes, the pathology of which is, in some degree, explicable by altered sensation, loss of movement, and disturbance of temperature control and blood-supply, there are others which seem to establish a direct influence of the central nervous system on all nutrition. We owe to M. Charcot and his pupils much of the light we possess on this subject; we need only mention his observations on acute decubitus, on the changes in the joints in locomotor ataxy, and on amyotrophic paralysis, all of which afford proof of the profound changes which may occur under the influence of spinal disease. The greater number of the changes we have instanced are either of a destructive or an irritative nature,

and are so regarded by M. Charcot. Perforating ulcer of the foot, and eschars on the sacrum and hips, afford good types of the destructive changes; whilst muscular atrophy, due to descending degeneration secondary to brain disease, or the atrophy with rigidity in the lateral sclerosis of "amyotrophic palsy," are examples of the latter.

We might reasonably expect that if these more profound changes are due to a direct nutritive connection of the nervous system, and result from the more intense modes of irritation, there would be other slighter changes, less easy of recognition, and taking the form of nutrient abnormalities or overgrowths, where the stimulus was less intense. Probably the differences in relative development of different tissues, and in various parts of the body, are under direct nervous control in their original development and maintenance, and further pathological investigation will enable us to appreciate this point more fully. An interesting contribution to this study has recently been made by M. Landouzy, with reference to the abnormal development of subcutaneous fat in certain cases of muscular atrophy secondary to spinal or cerebral disease. The full record of his observations will be found in the January number of the *Revue Mensuelle de Médecine et de Chirurgie*. He records the case of a man, sixty five years of age, who was seized with apoplexy, with only partial loss of consciousness, followed by right hemiplegia, which led to slow contraction and atrophy of the paralyzed limbs. As the atrophy of the muscles increased, the folds of skin on the wasted parts were found to become not only more distinct, but thicker than in the healthy limb, and the hairs and nails longer on the affected side. There was no marked difference in the temperature or vascularity of the two sides. Death having at last occurred from bedsores, followed by blood poisoning, M. Landouzy was able to make a very careful study of the condition of the tissues of the limbs on the two sides. He found that the folds of skin pinched up were nearly double the thickness in the wasted as compared with those in the healthy limb, and that this was due solely to an increase of fat in the subcutaneous cellular tissue, which was also distinctly yellower than in the healthy limb, the dermis remaining unaltered. The cause of the paralysis was found in a patch of softening in the white matter of the left hemisphere, extending from the hinder part of the first frontal convolution to the posterior extremity of the parietal lobule, parallel to and very near the convolution of the corpus callosum. There was no other lesion found in the brain; the right half of the cord and the right crus cerebri appeared somewhat wasted. M. Landouzy also mentions other cases in which an analogous condition was found. Amongst these were cases of obstinate sciatica, of muscular atrophy in multiple sclerosis, in neuritis due to cervical pachymeningitis, and in other cases of amyotrophic palsy. He states that it is of exceptional occurrence in the wasting palsies, such as progressive muscular atrophy, habitual in secondary muscular atrophies, and variable in infantile paralysis. If this condition is of frequent occurrence, as M. Landouzy's observations seems to show (and they are supported by other evidence), it is one of great interest and value in its clinical and pathological bearings. Muscular atrophy may, as he shows, be concealed by the overgrowth of fat, and its nature, when observed in doubtful cases, may to some extent be determined by the coincidence of the fatty hyperplasia.

Of the various explanations which might be offered to account for this condition, M. Landouzy shows that some are untenable. It cannot be explained merely by the increase of nutritive supply or of nerve influence upon the subcutaneous fatty tissue owing to its diminution in the muscles, for it bears no direct proportion to the extent of muscular atrophy, and is entirely absent in some of the best-marked cases. Nor can it be due to want of movement and muscular action solely, for it is not observed in many cases of complete loss of motion, and

it may be present where movement, though weak, is very free. In fact, by a careful examination of the possible explanations, M. Landouzy shows that no other reasonable cause can be assigned than the direct influence of the central nervous system, and that this appears to be exerted on the subcutaneous fatty tissue independently of the skin itself, the innervation of which appears to be separate. It may happen that changes in the skin itself, such as the eruptions which are occasionally seen in spinal or meningeal disease, may occur alone, or they may be associated with the fatty changes in the subcutaneous tissue, but the two are distinct and independent. And in the same way the effect of disease of cord or nerve upon the muscles of the limb may be atrophy from suspended action, and upon the subcutaneous tissue overgrowth of fat from increased stimulation; the two being collateral, but independent. Here, however, we enter upon a wide and interesting field of investigation, in which it is desirable that further clinical and pathological study should precede speculation; and the light which such observation may throw upon the obscure subject of nerve influence on nutrition is very considerable.—*Lancet*, Feb. 9, 1878.

—

Regeneration of the Retinal Purple outside the Body.

Prof. KÜHNE and Dr. A. EWALD (*Centralblatt*, No. 42, 1877) have discovered that solutions of Boll's "see purple" or "see red," in purified bile which is *absolutely free from ether*, if bleached by exposure to sunlight, recover their colour in a dark room. Similar solutions of the retinal (rodless) epithelium, mechanically freed from insoluble black pigment granules, etc., turn pink in the dark, pale in the light, and pink again if replaced in the dark. The colour of the retinal purple is restored with the greatest intensity in mixed solutions prepared from the epithelium and the retinal rods. It is an interesting fact that if the retina of a frog be bleached in the light before the animal is killed, the colour does not afterwards return under the action of darkness if the epithelium is removed, whereas, in dead frogs, bleaching in the light is followed under identical circumstances by purple regeneration, and the colour can be destroyed and revived several times.—*Med. Times and Gaz.*, Dec. 15, 1877.

—

The Development of the Red Blood-corpuscles.

The development of red blood-corpuscles is a problem of profound practical importance, and every fresh information on the subject is to be eagerly welcomed. An interesting series of investigations by M. G. HAYEM was recently communicated to the Académie des Sciences by M. Vulpian. They relate to the development of the red globules in oviparous vertebrata—birds, reptiles, batrachians, and fishes. The blood of these creatures, according to these researches, constantly contains cells which are destitute of colouring matter, and yet differ essentially from the ordinary white corpuscles. These cells on development become perfect red corpuscles, and hence Hayem proposes to call them "hæmatoblasts." He has found them in all the oviparous vertebrata examined (various birds, the tortoise, lizard, adder, frog, toad, triton, axolotl, and several fishes). They are also found in the blood of the tadpole, in which the characters they present are the same as in the adult animal. During their successive transformations, the hæmatoblasts pass through two phases. They are at first very pale and delicate, so that it is with difficulty that they can be distinguished from white corpuscles. They differ from the latter in the transparency and feeble refracting power of their protoplasm, and by their viscosity, by which they adhere one to another, and sometimes form a mass of considerable size. Their form is, moreover, somewhat angular or elongated, especially in birds, and they have a solitary

nucleus, which is clearer than the body of the corpuscle. The characters of the nucleus vary in different animals, but always resemble those of the nuclei of the red corpuscles, with this difference, that the latter are a little smaller, and often less elongated. In the second phase of development the corpuscles gradually assume the appearance of small disks, and lose their viscosity. Their aspect now, which is nearly the same in different animals, was described last summer by M. Vulpian. The tint of the hæmatoblast is a little darker than that of the original cell, and the nucleus occasions a prominence on each side of the disk. In the forms which are a little more developed, the protoplasm is reduced to a narrow ring around the nucleus, and the corpuscle assumes a shape resembling that of the developed red corpuscle, now and then first assuming an irregular shape. Sometimes the disk is composed of two distinct parts, as M. Vulpian has shown, a central clear and slightly granular portion forming a zone around the nucleus (of this traces may often be seen in the adult corpuscle), and another peripheral zone more homogeneous, and soon to become impregnated with hæmoglobin. The colouring matter appears usually before the development of the cell is completed, and then some coloured elements may be seen in the blood, having the form of hæmatoblasts. Their size varies according to the stage of their development; that of the nucleus varies according to the size of the nuclei of the red corpuscles in the same animal. Examined in a damp chamber, the hæmatoblasts are seen to undergo slow changes of shape, but these are believed by M. Hayem not to be true amœboid movements, but rather to resemble the successive stages of cadaveric destruction. After some hours the hæmatoblasts which were in the first stage of development are represented only by their nuclei retaining still some irregular tracts of a finely granular material; those which had attained the second stage are in general more resistant. All the reagents act on the hæmatoblasts just as they do on the red corpuscles, and produce no effects such as are manifested by the leucocytes. When dried rapidly, many small cells, which were colourless in the wet state, appear to be coloured, as if they already contained a small quantity of hæmoglobin. A comparison of the blood of many animals shows that these hæmatoblasts are in no case less numerous than the leucocytes, and that often, on the contrary, they are twice as numerous. Their proportion to the coloured corpuscles is, in the bird, 1 to 100, in the snake 1 to 40, in the tortoise 1 to 50, and in frogs 1 to 60. Hayem concludes that the white corpuscles do not form the red globules, and that while in the higher animals the newly-formed red corpuscles are coloured, whatever their origin, in the ovipara the embryonal corpuscles are at first free from hæmaglobin. An important problem is the relation these so-called hæmatoblasts bear to the leucocytes; whether they are really distinct, or merely a stage of transformation of the latter. This point, in spite of M. Hayem's opinion, must be considered as still doubtful.—*Lancet*, Dec. 29, 1877.

Materia Medica and Therapeutics.

Action of Intravenous Injections of Chloral on the Circulation and Respiration.

Dr. TROQUART has studied in M. Marey's laboratory, by the aid of self-registering apparatus, the action of intravenous injections of chloral in animals. He arrives at the following conclusions (*Thèse de Paris*, Aug. 6, 1877). When a sufficient quantity of chloral in solution is injected into the venous system of an

animal, disturbances of the action of the heart and of respiration are almost immediately and simultaneously produced, consisting of more or less prolonged stoppage (primary symptoms). The primary cardiac symptoms, which vary considerably according to the dose, the rapidity of injection, etc., consist, in order of decreasing gravity, of, 1. Definitive arrest; 2. Momentary arrest; 3. Simple slackening of the pulsations. The indications furnished by arterial pressure confirm the results obtained by direct exploration of the heart. The heart under the influence of chloral becomes excessively distended in the interval of two systoles. At the commencement, the ventricle empties itself completely, but soon becomes powerless to send a flow of blood of any volume into the arterial system. A heart congested in a permanent diastole, and showing small ventricular jerks without any useful effect is then seen. During the ventricular arrest, the systole of the auricle persists, which explains the congestion and the constant increase in the size of the heart under the influence of chloral. The disturbances are the more quickly repaired in proportion to their want of gravity. The time occupied by reparation shows nothing stable in its mode of appearing, its characteristics, or its duration, it varies especially according to the dose injected, and the quantity of chloral previously absorbed by the animal. Rapid after a first injection, it becomes slow after a series of successive injections. The chloral acts by its immediate contact with the internal septum of the right heart. It excites the sensitive nerve-filaments of the endocardium, and induces in the intracardiac ganglia a reflex action, which reacts on the moderator fibres of the pneumogastrics, whence results arrest of the heart in diastole. If a current of blood charged with chloral be made to pass through an isolated heart of the land tortoise, a systolic arrest is observed. The chloral penetrating immediately into the coronary arteries, when it leaves the ventricle, which is simple, acts directly on the muscular fibres, of which it provokes the contraction, as it produces that of the muscles into the arteries of which it is immediately injected.

Chloral gradually brings on paralysis of the peripheric extremities of the pneumogastrics, whence there is a decrease in the cardiac symptoms in proportion as the injections are multiplied.

Consecutive cardiac troubles are very variable; for the most part they are characterized by a period of slackening, followed by irregularities. In the mammalia, periods of abortive systole, with great lowering of pressure and disappearance of arterial pulsation, are observed. Chloral induces general congestion of the organs, dilatation of the capillaries, through paralysis of the vaso-motor nerves, which explains certain phenomena, such as lowering of the pressure, diminution of the temperature, etc. The respiratory disturbances are analogous to the cardiac troubles; simple slackening, however, is rare; for the most part, it is an absolute arrest, which follows almost immediately on the intravenous injection.

The respiratory arrest almost always supervenes before the cardiac troubles, and only ceases when these are partially repaired. The respiratory arrest may be definitive, and yet the pulsations of the heart may still persist for some minutes. The use of electric currents against these accidents is not entirely without danger. Artificial respiration seems to yield better results. The theory of immediate respiratory troubles necessitates further researches, but may take its stand on this fact, that reflex muscular action, of which the starting-point is in the excitation of the sensitive filaments of the endocardium, is concerned in it.—*London Med. Record*, Jan. 15, 1878.

On the Combined Use of Chloroform and Morphia.

Professor KŒNIG, in a communication to the *Centralblatt für Chirurgie* (No. 39, 1877), says he has combined the hypodermic administration of morphia with that of chloroform in a large number of cases, with very favourable results. It is seldom necessary to give more than one or at most two centigrammes ($\frac{1}{6}$ to $\frac{1}{3}$ grain).

The indications for the use of morphia during chloroform-narcosis are twofold: 1. Motor disturbances occurring before or during chloroform-inhalation unless these are very transitory: 2. Operations of such a nature that the chloroform-narcosis cannot be maintained throughout, and especially towards the end. Among the latter may be particularly mentioned operations upon the eye, plastic operations, extirpation of tumours from the soft parts of the face. The object of using morphia is to induce analgesia over and above the chloroform-narcosis, and also that this narcosis should not be pushed so far. As regards any danger which may be connected with the combination of narcotics, Kœnig esteems this lightly. He says that out of seven thousand cases in which he has used chloroform, none have died from it, and many of these took morphia also.—*London Med. Record*, Feb. 15, 1878.

The Physiological Action of Glycerine.

We drew attention some time ago to some interesting and important experiments made by M. CATILLON upon the physiological and therapeutic action of glycerine (MONTHLY ABSTRACT, June, 1877, p. 241). It will be remembered that he found that glycerine caused a considerable diminution in the excretion of urea, a rise of temperature, and, when continuously employed, an increase of weight. He proved, too, that it was entirely absorbed, unless given in very large quantity, when a small proportion escaped by the urine: and that it could not be found as such in the blood. Hence he concluded that it served as a supporter of combustion, and saved the waste both of the fatty and nitrogenous tissues, this explaining the increase of weight, diminution of urea excretion, and rise of temperature. But he did not show at the time, by direct experiment, that the products of combustion, in the shape of carbonic acid and water excreted by the lungs, were proportionally increased, which they should be if this view were correct, and this he has now done by further experiments, recently communicated to the Société de Biologie, which were made in M. Vulpian's laboratory. He found, by experiments on dogs, that the percentage of carbonic acid in the breath was notably increased by administration of glycerine, and that not only did it augment with increase of dose, but this augmentation lasted longer the larger the dose. The increase of carbonic acid began to show itself about an hour after taking the glycerine, reaching its maximum in three or four hours, and lasting from five to ten hours. And not only was the percentage in the expired air increased, but the total quantity was also greatly increased, so that nearly all the carbon contained in the glycerine was accounted for in the carbonic acid. This result seemed to be attained by an increase in the amplitude of the respirations, their number continuing the same; but it was not proved that this increased amplitude became greater with a larger dose. It was proved, too, that where disease of the lungs, such as pneumonia or emphysema, existed, there was still the increase of carbonic acid. A very important point, also noted by M. Catillon, is that the transformation of the glycerine into water and carbonic acid seems to be direct, no intermediate oxidation products, such as glyceric, formic, or oxalic acids, being discovered in the blood.—*Lancet*, March 2, 1878.

On the Therapeutic Action of Thymol.

Dr. BALZ describes (*Archiv der Heilkunde*, Band xiv. 3 and 4 Heft) the results of comparative experiments with thymol and salicylic acid in Wunderlich's service.

The thymol was administered either as an emulsion or as a mixture. The observations were made in healthy individuals, and on patients with typhoid fever, articular rheumatism, phthisis, and pyelitis, in almost all of whom pyrexia was present. Doses of a centigramme (.15 grain), if repeated many times, had no result. To produce an appreciable therapeutic effect, the dose had to be raised to a gramme and a half or two grammes (22½ or 30 grains) a day. The author made twenty-six observations, with the following results. If the drug came into direct contact with the bucco-pharyngeal mucous membrane, the patients complained of a sensation of pricking and of a bad taste in the mouth. Nausea was rarely produced, and only once vomiting, in a phthisical patient. If the dose were raised a sensation of heat at the epigastrium was produced, which was, however, transient; the patients also were often attacked with diarrhœa, the evacuations resembling those of typhoid fever. In a majority of the cases the injection of thymol was followed, half an hour or an hour afterwards, by sweating, which was more or less localized and abundant, but always less than that produced by salicylic acid and jaborandi. Sometimes, also, but not always, slight diuresis was noticed. The urine presented a dark and somewhat greenish colour, as if mixed with blood, and when viewed by transmitted light it appeared yellow-brown. The addition of a solution of perchloride of iron rendered the urine cloudy and of a gray-white colour. When the green colour predominated it might have been mistaken for icteric urine, or even for nephritic urine mixed with blood, but the absence of albumen in the latter case would prevent such an error. With regard to the nervous system, singing in the ears and deafness were noticed, and a sensation of constriction across the temples extremely disagreeable to the patients. More serious symptoms were sometimes observed. Thus in a patient in the third week of typhoid fever a dose of three grammes caused violent delirium, which lasted many hours, but ceased when the temperature was lowered. In another case of typhoid fever the patient lost consciousness, and then passed into a state of delirium followed by collapse, which lasted many hours, and caused very great anxiety. In typhoid fever and articular rheumatism, and in phthisis often, a dose of from two to three grammes will cause lowering of temperature of at least from 3° to 5° Fahr., but often the effect is greater than required, and the patients pass into deep collapse. To avoid these effects thymol is administered in fractional doses of 0.25 gramme (3¾ grains) every hour; this will give a total dose of 6 grammes (about 90 grains) in twenty-four hours. The circulatory system is relatively little influenced by thymol. When this drug causes a considerable lowering of the temperature there is a diminution of the frequency of the pulse, but not in proportion to the lowering of the temperature. The author attempted subcutaneous injections with a solution of thymol, but with no good result; the injection was often very painful, and readily gave rise to inflammation. He concludes that thymol is incontestably an antipyretic, but uncertain in action, and has not the value of salicylic acid and salicylate of soda.—*Lond. Med. Record*, February 15, 1878.

—

On Absorption of Medical Substances by the Vaginal Mucous Membrane.

Dr. E. W. HAMBURGER describes (*Prager Vierteljahreschrift*, Band cxxx.) a series of experiments performed by him to ascertain the absorbent power of the vaginal mucous membrane. He used solutions of the following substances, of the

strengths indicated: Iodide of potassium, 15 per cent.; ferrocyanide of potassium, 5 per cent.; ferridcyanide of potassium, 9 per cent.; salicylic acid, 2 per cent.; bromide of potassium, 6 per cent.; and lithia, 10 per cent. A plug of purified cotton-wool soaked in the solution was placed in the vagina, and over it two dry tampons. The bladder was first emptied, and afterwards the urine was drawn off by the catheter and examined at intervals of two or three hours. All the above-mentioned substances were found in the urine. Iodide of potassium was found two hours after the introduction of the tampon, and traces of it remained twenty-four hours after removal. Ferrocyanide of potassium, salicylic acid, and bromide of potassium appeared three hours after they were given. Hamburger believes that the administration of drugs by the vagina can be employed in all cases of obstruction of the normal passages, and that it will be specially useful in gynæcological practice.—*London Med. Record*, Feb. 15, 1878.

Medicine.

Microcythæmia.

HAYEM (*Comptes-Rend.*, lxxxiv., No. 22) expresses his opinion that the so-called microcytes which are present in blood that has been treated with certain reagents are artificial products of the latter, and that their number entirely depends on the particular process of preparation adopted. The microcytes are round, vesicular, highly refracting bodies; whereas, healthy blood-corpuscles, no matter what their size, are biconcave and discoid. There are normal blood-corpuscles in the blood which only measure two thousandths of a millimetre in diameter, and other gigantic corpuscles which measure twelve to fourteen thousandths of a millimetre, with a variety of intermediate forms between these two extremes. The smallest corpuscles are very rare in healthy adult men, whereas they are constantly present in great abundance in new-born infants, in women at the period of menstruation, and in invalids after severe hemorrhages (epistaxis, hæmoptysis, menorrhagia, etc.); and also during convalescence from severe febrile diseases, as well as in all forms of chronic anæmia of medium intensity. Hence their presence is not characteristic of any special form of anæmia (*e. g.*, of pernicious anæmia), as has been stated by some observers. There is, according to Hayem, a constant relation between the presence of small blood-corpuscles and the abundance of red blood-cells of normal size; and hence, in anæmic conditions, their number rises and falls with the increase or diminution of the latter. In general terms, they invariably appear, both under normal and pathological conditions, during the production of normal red blood-corpuscles. They represent an *immature* stage of these latter, and only require to meet in the organism with the necessary conditions for their development, to become converted into them. Hence they are only met with, as a rule, at such times as a new crop of normal red cells is being, so to speak, manufactured—for example, at the menstrual period. If pathological causes impede their development, they remain small, and accumulate as such in the blood, and this explains their special abundance in certain forms of anæmia, their conversion into red cells being prevented by the existence of the disease.—*Med. Times and Gaz.*, Feb. 9, 1878.

Case of Amnesia, with Post-mortem Observation.

At a late meeting of the Royal Medical and Chirurgical Society (*Lancet*, March 2, 1878), Dr. BROADBENT read a paper with the above title, of which the fol-

lowing is an abstract. The communication began by recalling some of the hypothetical conclusions of a previous communication "On the Mechanism of Speech and Thought," in vol. lv. of the *Transactions of the Society*. Dr. Bastian's hypothesis of a special "perceptive centre" in relation with each sense was adopted and extended. It was considered that these "perceptive centres" would be situated in convolutions which received radiating fibres; and Ferrier's researches have since located the centres for vision, hearing, smell, taste, and touch in some of the convolutions into which these fibres had been traced, more particularly fibres from the extra-ventricular portion of the thalamus. It was further considered probable that the formation of a complete idea of external objects would be represented structurally by the convergence of arcuate commissural fibres from each perceptive centre to some part of the cortex not in direct relation with the crus or basal ganglia. A part of this intellectual process would be the association with the idea of a name. On this hypothesis it would be possible for a breach to be made in the channel of communication between one of the perceptive centres and the "idea centre" or "naming centre," and a case was related in which the effects producible hypothetically by a lesion between the visual perceptive centre and the naming centre had actually been observed. A patient, otherwise quite intelligent, could not name the simplest object at sight, or read a word of his own writing. A post-mortem examination was made. It was pointed out that a lesion, cutting off the "naming centre" from the "auditory perceptive centre," or involving the former centre itself, would produce far more complicated symptoms, since the subject would, *ex hypothesi*, not only fail to understand spoken words, but he would not know what he himself was saying. Cases were briefly given exemplifying this condition, but no examination had been obtained after death. In the case which forms the subject of the communication, and which is believed to afford another illustration, the brain was examined after death. An omnibus driver, aged forty-nine, of intemperate habits, had a fit, of which no accurate account could be obtained, about October 1st, 1877. He had from that time been in the condition in which he was found on admission into St. Mary's Hospital on the 11th. He walked into the hospital, and no paralysis could be detected, except very slight paresis of the right side of the face. Sensibility, however, was defective over the entire right half of the body, limbs, and face. The striking feature of the case was that the speech consisted almost exclusively of an inarticulate jargon, in which, however, from time to time, a distinct word or phrase would be heard, such as "If you please," "Thank you." It was difficult to make out how far he understood what was said to him, as his replies, though mere jabber, were often appropriate so far as length was concerned, natural in tone and accent, and accompanied by natural gestures and facial expression. He would also address long speeches to those around him, evidently making some urgent request, and he frequently ended by crying. It was obvious that he thought he was giving expression to ideas present in his own mind, but he did not recognize the fact that his language was inarticulate. It was by telling him to do something that his want of comprehension of spoken words was made apparent. His invariable response to the command to give his hand was to put out the tongue, and in one or two doubtful instances only was his action appropriate, and then he was probably directed by signs. He did not understand writing. The patient died suddenly on November 6th, and on post-mortem examination softening was found involving a considerable part of the posterior half of the convex surface of the left hemisphere. The greatest depth (three-quarters of an inch) and breadth of the morbid change was seen in a transverse vertical section made at the end of the fissure of Sylvius. Here softening reached from near the superior longitudinal margin to within an inch of the

inferior and internal edge of the hemisphere. The convolutions affected were proceeding from before backwards, the supra-marginal lobule and corresponding part of infra-marginal or first temporo-sphenoidal gyrus; more deeply and in a more advanced degree the postero-parietal lobule, the angular gyrus, and the first and second temporo-sphenoidal convolutions in the same place; less extensively the middle annectent gyrus and the part of the occipital lobe adjacent. The softening involved the temporo-sphenoidal lobe more completely than the parietal lobe membranes. Arteries of brain fairly healthy, of vertex opaque, and raised by fluid from convolutions. No other morbid change observed. It was considered that the loss of comprehension of words, whether spoken by others or himself, and the confusion of mind consequent upon his inability to understand or to make himself understood, would account for the condition of the patient, and the interpretation was that this was due to destruction of the channel from the auditory perceptive centre to the higher centre in which the name is associated with the idea which it symbolizes, or to destruction of this name-centre itself. Whether the interpretation offered is exact or not, the case is interesting as an example of the association of certain loss of intellectual faculties with a lesion of definite extent and seat. It is worthy of attention that the left hemisphere is the one affected, and it would appear from this and similar cases that the exclusive employment of this hemisphere as the way out for language involved its use as the "way in." A comparison of the effects of lesions of identical parts of the two hemispheres would be fruitful of results.

The PRESIDENT asked whether the patient was as unable to express his ideas in writing as he was in speech; or if he could not, did he make attempts to write when he had a pen given him for the purpose?

Dr. BROADBENT said he was perfectly unable to express himself in writing, and, indeed, he held the pen in an aimless sort of way, not appearing to attempt to use it.

Mr. SPENCER WATSON had always felt there must be some fallacy regarding the idea of the one-sided function of the higher cerebral functions, and suggested that the true explanation of cases of amnesia from lesion of one side of the brain might be found in a loss of balance between the two hemispheres, just as the function of walking is disordered if one leg be injured and lost. No one would say that the function of walking resided in that injured leg.

Dr. BROADBENT said that it was no doubt a shock to all to find the function of speech limited to one cerebral hemisphere, but it seemed abundantly proved by facts. No amount of lesion in the right hemisphere would produce loss of speech—at any rate, in any but a left-handed person; whereas a very limited lesion in the third frontal convolution of the left side produced aphasia. The hypothesis of Broca and Moxon—of the education of the left hemisphere being correlated to right-handedness—involved also education in the intellectual expression of thought by means of speech, for speech is merely a matter of movement.

—

Syphiloma of the Pons Varolii; with remarks on Unilateral Cerebral Anæsthesia and Disturbance of the Senses.

At a late meeting of the Imperial Royal Medical Society of Vienna, Dr. ROSENTHAL described the case of a man aged 46, at first an out-patient and afterwards an in-patient of the General Hospital, who, since January 1876, had been the subject of severe headache, vertigo, and loss of sensation in the left cheek. Six months later there were observed ptosis of the left eyelid, paralysis of the abducens, diplopia, convergent strabismus, and paralysis of the trigeminus

nerve (outer and inner branches) affecting the conjunctiva, sclerotic, and cornea; there was loss of sensation in the two anterior thirds of the tongue on the left side; the glosso-pharyngeal region was unaffected. The diagnosis of a new growth in the pons Varolii was confirmed in August by the occurrence of paresis of the right side. The varying character of the paralysis of the ocular muscles caused syphilis to be suspected, although the patient denied that he had ever had the disease, and no indications of it could be found in the genital organs or glands. He took iodide of potassium (45 grains in two days) for four weeks. At the end of September, 1876, the right hemiplegia had improved, but was followed by left hemiplegia. He was placed in one of Dr. Von Bamberger's clinical wards, where he died on February 18, with symptoms of impeded deglutition and articulation. At the necropsy, the pons Varolii was found to contain several foci, mostly confluent, in the neighbourhood of which the substance was replaced by a grayish, rather soft mass, and partly by a dry substance having the appearance of cheese; most of the nerves at the base had undergone partial gray degeneration; the arteries at the base were in a normal condition. The liver was adherent by its convex surface to the diaphragm by several bands of connective tissue; it was rather small, and its capsule, especially at the convexity, was much thickened, and cicatricial bands passed from it into the substance of the liver. A microscopic examination of the new growth made by Dr. Chiari revealed the presence of the elements of syphiloma, numerous nuclei and round cells in a basis of fibrous tissue, as well as secondary descending degeneration of the antero-lateral columns. On examination during life of the anæsthetic anterior left third of the tongue, there was found to be complete loss of taste for concentrated solution of sweet, acid, and salt substances; while even weak bitters were tasted. Galvanic examination, by means of the application of fine isolated electrodes to the tongue, as also by the conduction of the current from the parotid and laryngeal regions, produced on the right half of the tongue a metallic taste with from eight to fifteen of Siemens's elements, while on the left half only a moderate taste was produced by twenty-five or thirty such elements. In two cases of hysteria which Dr. Rosenthal had observed in the practice of Dr. Scholz, left hemiplegia and hemianæsthesia set in, and extended over the whole region supplied by the left trigeminus nerve, as well as the whole left half of the tongue. The sense of taste was completly lost, and only a feeble sensation was excited by a current of from sixteen to twenty elements; when the stimulant was conveyed through the parotid and larynx, thirty to thirty-five elements were required to produce any effect. The right half of the tongue preserved its gustatory power for some months, but it at last disappeared here also. In one case, the right half of the tongue (the taste being totally lost) remained for several days sensible to pricking, while the application of ice to the same part, as well as to the corresponding half of the face and chest, was not perceived. In order to test the irritability of the brain in the three cases mentioned above, Dr. Rosenthal applied a galvanic current through the corresponding halves of the occiput and forehead; on the healthy side, from 15 to 18 elements produced giddiness, metallic taste, and phosphene: on the anæsthetic side of the head no effect was produced by 40 elements, beyond a slight flashing in the eye. In six cases of rheumatic paralysis of the face, the author found the taste normal in the mild cases; in the more severe forms (with loss of nervous irritability and degeneration in the muscles) the sense of taste was impaired, in some quite lost: the galvanic gustatory reaction was little if at all diminished. In the severe cases of facial paralysis which recovered, the return of taste was among the first signs of improvement; but several weeks elapsed before the perception of sweet, salt, and latest of all, acid substances, was regained. The author concluded from numerous experiments that the galvanic examination of

the sense of taste afforded more delicate and certain results than the ordinary methods. If, when the normal sense of taste is lost, the galvanic reaction be not at all or but little changed, an affection of the peripheral gustatory fibres is indicated; while, if the galvanic reaction be considerably diminished, the loss of sensation most probably has its origin in the conducting nerve or in the centre. The assumption of intracerebral disease becomes a certainty, when, in cases of complete loss of taste, no effect on the sense is produced by galvanic stimulation of the corresponding side of the head.—*Lond. Med. Record*, Jan. 15, 1878.

—

An Analysis of Seventy-five Cases of Writer's Cramp and Impaired Writing Power.

Dr. VIVIAN POORE, at a recent meeting of the Royal Medical and Chirurgical Society (*Lancet*, Feb. 16, 1878), read an exhaustive and elaborate paper on writer's cramp, of which the following is an abstract. In seventy-four of these cases the condition of the hand completely over-shadowed any other disease, whether general or local, from which the patients were then suffering. Most of the cases merited the name of writer's cramp, or had been so called, but the author has purposely included a few cases which obviously do not merit that name, because the study of them throws some light on the main question. The cases fall naturally into six groups, thus: 1, paralytic (six cases); 2, spasmodic (five cases); 3, degenerative (nine cases); 4, neuralgic or neuritic (nineteen cases); 5, writer's cramp (thirty-two cases); 6, anomalous (four cases). The cases are arranged in a tabulated form. It is shown that since the ulnar nerve supplies thirteen and a half out of the eighteen intrinsic muscles of the hand its integrity is very necessary (more necessary than that of any other nerve of the hand) for all delicate manipulation, especially writing. The spasms which affect the hand, and which are particularly prone to follow attacks of hemiplegia, owe sometimes, there is good reason to believe, their character, if not their origin, to a faulty antagonization (due to a secondary paralysis or paresis) among the muscles of the paralyzed limb. Although it is commonly received that such spasms are due to disturbance of the gray cerebral matter, it is well to look also to the peripheral aspects of the question. Provided a nervous impulse, issuing from the brain, be distributed in a limb to equally irritable muscles which mutually antagonize each other, it is difficult to conceive that spasm of definite form should be produced; but should the equilibrium of antagonization in the limb be destroyed by a secondary lesion, the production of definite spasm is easily conceivable, especially when voluntary control is lessened by a lesion of the central ganglia. In some cases of localized spasm there is no evidence of central change, and it is theoretically possible that the action of a disordered centre on a healthy periphera and the reaction of a disordered periphera on a healthy centre may be identical in their results. It is shown that loss of writing power is often the first and most prominent symptom of degenerative change occurring in the spinal cord or brain. The neuritic or neuralgic group is characterized by a painful and tender condition of the nerves of the limb, which may be induced solely by overwork, but more frequently by a strain or similar injury, combined with exposure to cold and a depressed state of health. Of the nineteen cases in this group twelve were females. Any attempt to use the arm, either for course or fine acts, produced fatigue, pain, and neuralgia. It is not always easy to distinguish these cases from true writer's cramp, and, indeed, there cannot be said to be any hard and fast line between the two groups; but it is characteristic of the neuralgic groups that—first, the symptoms involve a wider area; secondly, the symptoms are sometimes induced without excessive exercise of any function; thirdly, nerve tenderness or neuralgia is

a prominent symptom. In the group of true writer's cramp considerable care is necessary to detect peripheral evidence of mischief, but the author states that in every case of impaired writing power which he has seen *there has been evidence more or less marked of derangement of one or more of the muscles used for writing.* This evidence consisted of—first, obvious failure to use certain muscles efficiently either for writing or for some other less complicated act; secondly, the occurrence of consentaneous movement or tremor when certain muscles were put in action; thirdly, depressed or exalted electric irritability; and, fourthly, the occurrence of sensory derangement or nerve tenderness. The muscles which are most frequently involved are those of pen-prehension rather than those of pen-movement. Reviewing the cases as a whole, attention is directed—first, to the inferences which may be drawn from an inspection of the hand-writing; secondly, to the fact that joints were found to be implicated no less than twenty-one times, the joint affection being rheumatic, neuropathic, gouty, or due to strained position; thirdly, to the fact that a difficulty in writing is not very infrequently hereditary, or developed very early in life; and that, fourthly, any evidence of involvement of the nerve-centres is decidedly rare. Writer's cramp has been spoken of as a disease of "faulty coordination," and there can be no doubt that such is the case, for it is evident that the muscles used for writing fail to work orderly together. We are not, however, justified in assuming the existence of a special coordinating centre for the controlling of the act of writing, and the author has been unable to find evidence that this centre (supposing it to exist) ever gives way, leaving the periphera, except for the special coordinated act, in a state of perfect health. The existence of such a centre appears to the author to be improbable for the following reasons: 1. Because he has never seen a case of writer's cramp without peripheral evidence of change, and in the majority of cases there has been no evidence of any change other than peripheral. 2. Because, if there be a coordinating centre for writing, it must be created, as it were, by education. The coordination of writing, which we are many years in acquiring, must be distinguished from those coordinated movements (such as the symmetrical movement of the two eyes) which are wholly independent of education. The fact that no two people hold their pens exactly alike, and that it is scarcely more difficult to write with the toes than with the fingers, is much against the probability of the existence of a writing centre. 3. Because writer's cramp is never suddenly established, as aphasia sometimes is. 4. Because it is almost certain that a purely peripheral lesion may cause all the symptoms of writer's cramp. 5. The fact that the left hand (if used for writing) sometimes suffers, as well as the right, is no evidence that the change is central. In previous writings the author has spoken of writer's cramp as a "fatigue disease," and he is still inclined to adhere to the word "fatigue" as a convenient expression for an easily recognizable and familiar condition of the pathology of which we are uncertain. He is inclined to think that occasionally fatigue is the expression of hyperæmia or mild inflammation of a motor nerve, and that the same condition may be produced either by overwork or by accidental causes, such as cold, strain, "rheumatism," or injury. Fatigue especially attacks those muscles which are subjected to prolonged strain, and it is probable that the relative frequency of writer's cramp, as compared with other professional ailments, is due to the fact that prolonged strain of certain muscles (those which hold and steady the pen) is inseparable from the act of writing. Finally, as to the position of writer's cramp in the catalogue of diseases, the author would feel inclined to class it with neuralgia—that is, with a disease the phenomena of which are purely local, but which we recognize as being due not only to conditions affecting the sensory area involved, but also to molecular change affecting any part of the sensory fibre, whether be-

fore or after its junction with the nerve-centre. The author concluded by laying down certain principles of treatment for the various forms of impaired writing power.

—

Rhythmical Hysterical Chorea.

Of all the pathological conditions which come under the notice of the physician, perhaps the one which gives the greatest trouble, and is the least satisfactory to all concerned, is the condition, or we should rather say the series of morbid states, to which the generic term hysteria has been applied. To the patient and her friends the disease is a very real one, oftentimes giving rise to great suffering, mental or bodily, or both, and too frequently incapacitating its victim from the performance of any of the duties of life. On the other hand, there has been in many instances too great a tendency on the part of medical men to make light of such cases, and, because the symptoms cannot be grouped within the well-marked boundaries of organic disease, to consider them as the result of wilful misrepresentation on the part of the patient, or of mere "fancy," and hence that nothing need be done but to tell the patient there is "nothing the matter."

Of late years, however, there has been a growing tendency among scientific physicians to investigate the phenomena of hysteria in the same way that the more clearly organic diseases are studied, to analyze its various phases, and to attempt to discover their true significance. Foremost amongst those who have attempted to grapple with this most obscure subject has been Professor CHARCOT, who has lectured from time to time during the last few years on different manifestations of the disease. At one time his attention was turned to the derangements of sensation in the form of hemianæsthesia, general and special, the study of which has now become so closely linked with his name. At another time he dwelt upon the remarkable modifications in the renal functions occasionally seen in hysterical subjects; but more recently he has called attention to the various motor phenomena of hysteria, convulsions, contractions of limbs, or paralyses. In a course of lectures recently delivered at the Salpêtrière, he has carried the study of this division of his subject a step further, by treating of a condition presented by one of his patients to which he has given the name of "rhythmical hysterical chorea." The patient in question was a young woman, nineteen years of age, whose previous history presented a long succession of hysterical phenomena of various kinds. She presented, indeed, all the characters of the condition which Dr. Charcot has termed "ovarian hysteria." From the age of thirteen she has been subject to convulsive attacks of the typical hystero-epileptic order, and these fits could be invariably stopped at once by compression of the right ovarian region. In this region there was at all times a certain amount of pain, which increased when a fit was impending, and was exaggerated by pressure. The warning which preceded the fits started from the painful region, and thence extended to the epigastrium, the neck, the head, etc. The right half of the body was the seat of absolute anæsthesia, both for general sensation and for heat, and the special senses were also affected, though in different degrees. There was loss of smell in the right nostril, absolute loss of taste in the right side of the tongue, dulness of hearing in the right ear, and amblyopia, with partial dyschromatopsy in the right eye—perception for the "central" colors, violet and green, being completely lost, whilst the "peripheral" colors, red, orange, yellow, and blue, could still be clearly distinguished. Corresponding with the hemianæsthesia was a certain amount of muscular weakness on the right side, for whilst the dynamometrical pressure with the left hand was twenty-five kilogrammes, with the right hand it was only fifteen kilogrammes.

The patient had thus long presented many of the more severe symptoms of hys-

teria, when recently a convulsive attack, which had been of unusually short duration, and of which the symptoms had been much milder than was usually the case, was immediately followed by a ceaseless agitation of the whole of the right side of the body. At first sight the movements appeared to be without perceptible order, but a more attentive examination made it evident that they all presented certain general characters. For instance, the agitation of each part of the body could be decomposed into alternate movements, particularly those of flexion and extension, which were always the same and absolutely uniform. The trunk was at one moment flexed on the pelvis till the forehead nearly touched the knee, and at the next moment it was thrown back, the head falling heavily on the pillow. In the arm a state of complete extension and pronation alternated with strong flexion and supination; whilst in the leg an extension of the limb, sufficient to press it strongly against the mattress, and which in the foot simulated talipes equinus, was immediately replaced by an equally well-marked flexion of all the joints. The flexion of the trunk corresponded with extension in the limbs, and *vice versâ*. To complete the picture, it is only necessary to add that when the head and trunk were thrown back, the right labial commissure was momentarily drawn outwards, the deviation ceasing when the trunk was flexed forwards, and if the tongue were protruded at the moment of production of the grimace the point was strongly deviated to the right, this deviation being the expression of a rhythmical deviation of the organ which was constantly going on in the patient's mouth, and which greatly interfered with her pronunciation.

The number of oscillations varied from thirty to eighty per minute, and at the time when M. Charcot demonstrated the case to his pupils the movements had been going on for ten days without cessation or respite, except during the few hours that the patient slept. At the moment of waking, a curious phenomenon always occurred: the limbs which were the seat of agitation when she was fully awake became for a few moments quite rigid—the leg more so than the arm; but the rigidity soon gave place to movement. Throughout the attack the limbs of the left side were at rest, and, notwithstanding the great oscillations of the trunk, the patient could, with her left hand, carry a glass of water to her mouth without spilling it, and she could with that hand even write her name legibly.

Taking the term chorea in its widest sense as applying to all continuous excessive involuntary movements persisting as long as the patient is awake, the affection just described may be classed with chorea. It is not to be confounded with the ordinary chorea of Sydenham—the chorea minor, in which the movements are without rhythm and beyond analysis—but it belongs to the variety described by Professor Sée as *systematic* or *rhythmical chorea*, in which the involuntary movements more or less resemble voluntary, intentional actions; are, so to speak, coordinated, and can thus be clearly distinguished from the incoordinate, utterly purposeless movements of ordinary chorea.

To prove that the attack from which the patient was suffering was no fortuitous complication, no foreign episode superadded to the great neurosis already present, but that it was one which was very closely connected with the hysterical diathesis, Professor Charcot adduced firstly the fact already mentioned—that it set in immediately after a convulsive attack remarkable for its shortness and mildness, and that it is just under such circumstances that other phenomena of a motor order frequently arise, such as paralysis, contraction of members, and the like. Hence the choreiform agitation might be looked upon as a continuation, or prolongation under a new form, of the aborted hysterical attack. But another and still stronger argument, according to Professor Charcot, lies in the fact that compression of the right ovarian region, properly applied, produced complete cessation of the rhythmical movements, as he demonstrated to the class. Not-

withstanding that the limbs were in this way relieved from the state of ceaseless agitation in which they had hitherto been, they did not recover their normal functions, for they had become the seat of considerable muscular rigidity, comparable in all points to the contraction which was present each morning when the patient awoke.

The remarkable arrest of choreiform movements under the influence of ovarian compression was, nevertheless, only a temporary suspension. It persisted just so long only as the compression was maintained; as soon as this was removed the contraction disappeared, and the rhythmical movements of the trunk and members recommenced as violently as before.

From all this Professor Charcot has been led to conclude that the rhythmical chorea seen in this patient was dependent upon ovarian susceptibility, in the same way that he considers the ordinary convulsive attacks of hysteria can be traced back to a morbidly excitable condition of the ovary, associated with pain and hyperæsthesia of that organ. Hence he places this form of chorea among the many very various manifestations of hysteria; and because of its replacement by tonic rigidity of the muscles both on first waking in the morning and under the influence of ovarian compression, he looks upon the chorea and the rigidity as equivalent conditions capable of being substituted for one another in the series of hysterical affections.

As regards the treatment of the case, Professor Charcot sought some means by which to cut short the chorea. As we have seen, simple ovarian compression, though it changed the character of the attack for the time, was powerless to arrest it entirely. Arguing from the analogy of allied condition, Professor Charcot believed that ovarian compression prolonged for several hours, or repeated at short intervals over a considerable period of time, might succeed in breaking the chain of morbid phenomena. This, however, would be a very tedious and laborious process, and Professor Charcot hoped to be able to dispense with it by taking advantage of a fact which he has observed in connection with hystero-epileptic attacks. He has found that the inhalation of ether or of nitrite of amyl by a patient suffering from ovarian hysteria will in most cases induce a fit having all the characters of the ordinary hystero-epileptic attack. Now, as the attack of rhythmical chorea appeared to take the place of a convulsive attack, he hoped to be able to put an end definitely to the former by inducing the latter. We are not, however, told to what extent he succeeded in the present case.

Professor Charcot ended his lecture by pointing out that the condition to which he has drawn attention is by no means observed now for the first time. In his memoir on Rhythmical Chorea, Professor Sée makes special mention of a variety of the disease connected with hysteria; and Trousseau describes a condition, of which three cases had come under his notice, that evidently belonged to the same category. M. Briquet also, in his well-known work on Hysteria, mentions several similar cases; whilst in our own country Dr. Murchison has described a case of unilateral chorea which alternated with attacks in which the side that had been choreic became for a short time rigid throughout. It must not be concluded that all cases of rhythmical chorea are hysterical, nor that all cases of hysterical chorea are rhythmical, for numerous examples exist which prove the contrary; but that certain cases of rhythmical chorea occur which undoubtedly depend upon hysteria must now be considered as proved, and they form an interesting addition to the already multiform manifestations of this disease. That a very similar condition is met with, due to other causes, is also of the highest interest, as it affords an instance the more of the strict analogy existing between the so-called functional symptoms of hysteria and those which have a recognizable organic lesion for their basis—an analogy which, we believe, a more careful observation of the pheno-

mena both of hysteria and of organic disease will make more and more complete. —*Med. Times and Gaz.*, Feb. 23, 1878.

—

A New Form of Mycosis Œsophagi.

In the *Archiv für Experimentelle Path. und Physiol.* (quoted in *Med.-Chir. Centralblatt*, No. 32, 1877), Dr. E. LETZERICH describes the case of a child sixteen months old who suffered from difficulty of deglutition, irritation, dyspepsia, and distension of the stomach, and who vomited muco-purulent masses, which were found to contain flattened epithelium, covered with peculiar microscopic fungi. An examination of the paper hung on the walls of the room revealed the cause of the child's illness. It was moist, had a fine powdery deposit on it, and presented numerous defects. In creeping along the wall, the child had pulled off small pieces and swallowed them. Dr. Letzerich found, on microscopic examination, that the fungi of the paper were identical with those in the vomited matter. The presence of these organisms explained the œsophageal and gastric symptoms. The treatment consisted in the administration of salicylate of soda in barley-water, under which, in eleven days, the patient recovered.—*Lond. Med. Record*, Dec. 15, 1877.

—

Tracheotomy in Tuberculosis of the Larynx.

Tuberculosis of the larynx is generally not mentioned in text-books as one of the indications for tracheotomy, as the operation is usually regarded as only a possible means for prolonging life for a short period. Dr. SERKOWSKI, however, is of a different opinion (*Przeglad lekarski*, No. 13, 1877, and *Allgemeine Med.-Chir. Zeitung*, August 15). He has performed tracheotomy twice for tuberculosis of the larynx. One of the patients on whom the operation was performed seven years ago is still alive; the other died at the end of three years, and *post-mortem* examination showed far advanced phthisis. The one still living was attacked after a journey with severe dyspnœa, on account of which Dr. Serkowski at once performed tracheotomy. After the introduction of the canula the respiration became free, and his patient fell into a sleep which continued for forty-eight hours. Under general treatment her strength was regained and her cough left her; but she continued to wear the canula for two years, until laryngoscopic examination showed that a thickening of the vocal cords was all that remained of the former morbid condition. Two years later there was still marked dulness on percussion over the apex of the right lung. Since that time Dr. Serkowski has never examined her, but he has often seen her in an apparently well-nourished condition. He expresses the opinion that the opening in the trachea was not only of temporary benefit, but prevented the further development of tuberculosis. He considers it necessary that the opening of the glottis should be sufficiently large, as thus only can the expectoration of purulent secretion from the lungs, and the admission of air to these organs, be secured. He therefore believes tracheotomy to be indicated in all contractions of the larynx, particularly in tubercular patients. The operation is absolutely required when the larynx is more affected with tuberculosis than the lungs.—*London Med. Record*, Feb. 15, 1878.

—

Bronchiectasis.

Dr. BARDENHEWER says (*Berliner Klinische Wochenschrift*, December 24, 1877) that according to Gerhardt (*Deutsches Archiv für Klinische Medicin*, vol. xv.) articular rheumatism may occur in connection with suppurative diseases of mucous membranes, and in consequence of the absorption of, and blood-poisoning

by, accumulated, stagnating, and decomposing purulent effusions, as in bronchiectasis (bronchitis with dilated bronchi), diphtheria, gonorrhœa, pyæmia, dysentery, etc. In confirmation of this view, two cases were observed in the Cologne Hospital. Both were well-marked cases of bronchiectasis, with abundant muco-purulent and very fetid expectoration, for which both were treated with inhalation of a solution of 2 per cent. of carbolic acid. While under this treatment, and improving with it, both were seized with rheumatic inflammation. In the first case there was a single attack of pain, and swelling of the left knee, which gave way to local application of ice. In the second case, three separate attacks occurred in both knees, presenting all the symptoms of acute articular rheumatism, and were relieved by the internal use of salicylic acid. Both cases ultimately recovered completely. Gerhardt strongly advocates mechanical compression of the thorax in the treatment of the bronchiectasis, as removing the stagnating purulent secretion, diminishing the concomitant fever, and also relieving the rheumatic symptoms. In place of this, the above two cases were treated by carbolic inhalation—the same treatment, indeed, having been steadily pursued for about three years in the Cologne Hospital in all cases of bronchiectasis. Cases of pneumonia, pleurisy, mechanical injuries of the respiratory organs, etc., may at different stages present expectoration of abundant purulent and fetid sputum. This sputum separates on standing into three distinct layers (Traube); the upper layer is greenish-yellow, opaque, and frothy; the middle serous, transparent, and albuminoid; the lower yellow, opaque, and consisting of pus and detritus. It further contains paste-like plugs of a dirty-yellowish colour, which are extremely fetid, and consist of finely granulated detritus, mixed with larger fat globules, in which are suspended occasionally (Virchow) acicular crystals of margaric acid. In presence of this kind of sputum, treatment has the double object of counteracting its putrescence and of reducing its excessive quantity. Arrest of the putrescence of the secretion accumulated in the bronchial tubes is generally followed by diminution of its quantity—since the putrid secretion itself acts as an irritant in causing its continuous production and decomposition, and also in maintaining the accompanying febrile state. The main indication, therefore, is the arrest of the putrefactive process. The experience of thirty cases within the last three years is, that this is best fulfilled by the inhalation of carbolic acid. For this purpose a solution of carbolic acid in water (1 or 2 per cent.) should be inhaled every two hours day and night for several weeks. The result has always been most favourable, even when, from the nature of the case, complete cure was out of the question; while in several instances, when strong evidence of cavities existed, this treatment led to a perfect restoration to health.—*London Med. Record*, Feb. 15, 1878.

—

Syphilitic Pneumonia.

Dr. SACHARJIN (*Berliner Klinische Wochenschrift*, January 21) says every one has heard of cases of phthisis cured by iodide of potassium and mercury, but of anatomical basis for the diagnosis of syphilitic pneumonia there has been lack. Syphilis often directly, or indirectly through the treatment, breaks people down in health, and phthisis supervenes. Such cases are usually not only not benefited by specific treatment, but the disease grows rapidly worse. But he has had the opportunity of seeing two cases not conforming to this type. The first case was seen fourteen years ago. A well-built man, of healthy family, thirty years of age, six or seven years before had had syphilis, and, in the last three years, serpiginous eruptions and periostitis of the tibiæ and ulnæ. For the last few weeks he had suffered from pain and stuffing of the chest, great shortness and difficulty of breathing, and, in the last week, much cough and slight febrile dis-

turbance. During the last year the patient had been liable to colds, which had generally taken the present form of feverish bronchitis, sharp, but of short duration. For the past few days he had been in bed; the fever had gone, but the cough remained. His present condition was meteorism, and tendency to constipation: no albumen nor sugar in urine; pulse rather rapid and feeble; much emaciation, no fever, restless sleep, low spirits. He had little cough, very little morning expectoration (which the patient, in spite of warning, forgot to keep), marked dyspnœa, and feeling of obstruction and pain in the chest. Both clavicles projected; above and below was marked depression of the chest-walls, with dulness of the percussion-note, especially on the right, down as far as the lower border of the second intercostal space; fremitus was less than normal, and, on auscultation, indeterminate breathing, tending towards bronchial (prolonged expiration), was heard. In the same places and elsewhere in the chest there were sibilant and moist râles. No other signs were heard in the thorax. The heart was normal. In the tibiæ and ulnæ were great pains, increased at night, and, on investigation, syphilitic periostitis was found. For a week he kept his bed, took no medicine, but regulated his diet; the cough and expectoration went, the râles disappeared, but the other physical signs remained. From the coincident phenomena, the lung-affection was diagnosed as syphilitic, and, as he had had very little mercury, that drug was prescribed. It was followed by intolerable itching, worse at night, and preventing sleep; scratching brought out a papular eruption, and the itching increased; where the patient could not scratch, there was no eruption. Baths and other remedies were useless; a lotion of perchloride of mercury alone gave any relief. The treatment therefore was, externally, the application of the above lotion for the itching and eruption, bearing in mind, too, the absorption of mercury, from the large extent of surface to which it was applied, and internally half a pint daily of Zittmann's decoction as a mild mercurial. The itching and eruption soon disappeared, and sleep returned. After four weeks of the treatment, the shortness of breath, pain, and obstruction of the chest disappeared. The hollows above and below the clavicles had filled up (the patient had gained flesh by better appetite and rest) while percussion, auscultation, and palpation could no longer detect the previous signs; the chest presented here, as everywhere else, the normal conditions. During the following eight years the patient was twice seen complaining of slight nervous and gastric disturbances; but, with the exception of two slight and passing attacks of bronchial catarrh, the chest remained healthy. The second case, observed six years, is the literal repetition of the first. The patient, 30 years of age, and of strong constitution, had had syphilis nine years; and, for the last five years, suffered from periostitis and ozæna, with necrosis of bone. At the commencement of his illness he took a little mercury, but had since been treated with iodide of potassium only, the influence of which had seemed feebler lately. For the last year the patient had suffered from nervous and dyspeptic symptoms, and febrile bronchial catarrh, which, treated by keeping his room and quinine, disappeared. Shortly before being seen, he had had one of these attacks, accompanied, however, by pain in the chest and shortness of breath, which had not previously occurred. When seen he was free from fever, and the cough was nearly gone; he had no sputa, marked shortness of breath, etc., just in all points like the first. When the bronchitis had quite disappeared he was ordered mercurial inunction, which was done twenty-five times—five of ten grains, five of fifteen grains, and fifteen of twenty grains; the result was, complete disappearance of the physical signs and symptoms.

Sacharjin considers that the clinical aspect of these cases sufficiently distinguishes them from phthisis, while their syphilitic nature is proved by the effects

of treatment. They do not aid the anatomical question. He hopes others will publish their own experiences, so as to enable us to judge of the relative frequency of such cases. Dr. Flöroff has informed him of a case which he has observed with identical characters, which recovered under iodide of potassium, and is still healthy (four years afterwards). He thinks the following peculiarities distinguish syphilitic pneumonia from ordinary phthisis:—

1. The specific history.

2. The patient's strong constitution. It is more probable that feeble subjects, with a tendency to phthisis, acquire that early, than that they live to acquire the later syphilitic affections, of which syphilitic pneumonia is certainly one.

3. The symptoms and physical organs.

4. The absence of hæmoptysis, cough, sputa, and râles.

5. No fever.

6. The different effect of mercury or iodide of potassium. In reference to this, it is mentioned that syphilitic pneumonia presents the same peculiarity as the other later syphilitic affections; it suffices to employ a very moderate quantity of mercury to cure the morbid appearances; the later syphilitic affections appear to require much less mercury than the earlier ones. It is possible that such cases may be at times complicated with inflammatory disturbances of the lungs or pleuræ, in which cases their typical aspect would be altered, and no conclusions for diagnosis, prognosis, or treatment, based upon lung-syphilis, would hold good. Further observations must show whether simple uncomplicated syphilitic lung-affection, curable by mercury or iodide of potassium, can assume a different appearance from the above.—*London Med. Record*, Feb. 15, 1878.

—

The External Use of Tincture of Belladonna in Night-Sweating.

Mr. NAIRNE writes, in the *British Medical Journal* of February 2, that for some little time past he has employed the common pharmacopœial tincture of belladonna for sponging the body in cases of phthisical and excessive sweating, and invariably with marked benefit. So far as his experience goes, he has found it very much better than anything else; if applied before a sweating comes on, it prevents it; if during the sweating, it almost immediately controls it. Two teaspoonfuls of the tincture mixed with an equal quantity of whiskey are quite sufficient (applied with the hand), to cover the whole body and produce the desired effect.—*Lond. Med. Record*, Feb. 15, 1878.

—

Abnormalities of the Spine, simulating Chest-Disease.

In the *Berliner Klinische Wochenschrift*, December 24, Dr. P. HEYMANN, of Vienna, describes two cases of spinal abnormality, simulating disorders of the cervical and upper thoracic viscera.

The first case is that of a well-made robust girl, aged 16. She complained of periodic attacks of dyspnœa, which usually occurred a few days after catching an ordinary cold, and gradually gave way again, after three to five days, on the setting in of an abundant thickish expectoration. The difficulty of breathing was greatest in the recumbent posture, and at night, and was accompanied by a feeling of obstruction of the throat, without, however, constriction and oppression of the chest, and by deep reddening and suffusion of the face. Cough and difficulty of swallowing were entirely absent. Examination with the laryngoscope revealed a rounded, hard, bony, and immovable prominence, projecting from the posterior pharyngeal wall, and occupying two-thirds of the pharynx. On moving the head forward or backward, this projection was slightly altered in form. The epiglottis appeared smoothed and flattened, and fitting to the anterior surface of the promi-

nence. On examination from behind, the spinous process of the fourth cervical vertebra was indistinctly felt, and projected rather too much upwards, and above it was felt a considerable gap, bounded above by the spinous process of the axis. On bending the head backwards, the spinous process of the fourth vertebra disappeared, but became plainly prominent again on inclining the head forward, and then the gap was occupied by a tense band, apparently stretching between the spinous processes of the second and fourth cervical vertebræ. On inclining the head laterally, only one side appeared thus stretched. The head was readily reclined, but there was some difficulty of inclination. It appeared, therefore, that the arch of the third cervical vertebra was deficient, hence the body of the vertebra was thrown forward, causing a tilting backward of the spine, and the prominence described; while posteriorly the spinal canal was for the time obliterated. On the occurrence of a throat-catarrh, the mucous membrane covering this projection swelled, and pressed against the epiglottis, thus causing the dyspnœa, which was relieved by stretching the neck upwards and forwards, and so reducing the obstructing prominence. This defect of the third cervical arch was evidently congenital, the symptoms described having existed from earliest childhood. In the anatomical collection at Vienna there exist several specimens of similar abnormalities—for example, an atlas with the entire arch between the articular processes absent; complete fissure of the atlas; anchyloses between two or more cervical vertebræ, etc.

The second case was that of a gentleman aged 50, who for the last two years had suffered from difficulty of swallowing, amounting at times to utter impossibility; vomiting was never present. Examination with œsophageal bougies showed the existence of a variable obstruction below the cricoid cartilage, so that at one time the largest bougie could be introduced, while at another even the finest could not pass. When the obstruction was once overcome, all sizes of bougies were readily passed down to the stomach.

This coincided with the patient's statement that at times he could not swallow at all; but, if the food had once overcome the obstacle situated high up in the gullet, it readily passed onwards. We know that the normal relation of the cricoid cartilage to the spinal column is such that a certain amount of movement of the head is necessary when introducing the œsophageal sound.

In the patient the introduction of the bougie was yet much more dependent on the position of the head. This led to the conclusion that the obstruction to deglutition consisted of a lordosis (curvature with the convexity forward) of the cervical vertebræ. This was confirmed on undressing the patient. It was then found that there existed skoliosis (curvature with the convexity backward) of the upper dorsal and of the lumbar vertebræ, compensated by skoliosis and slight lordosis of the lower dorsal vertebræ, and lordosis of the lower cervical vertebræ, which occasioned the obstruction to deglutition. A pasteboard cravat of about a hand's breadth was accordingly so adapted that, by stretching the neck upwards, the curvature was almost neutralized, enabling the patient to swallow without difficulty.—*Lond. Med. Record*, Feb. 15, 1878.

The Immigration of Corpuscles in the Lung.

A question in pulmonary hemorrhage of considerable scientific interest and direct practical bearing is raised by some observations published by Professor NOTHNAGEL in Virchow's *Archiv*. They relate to the passage of cells from the alveoli of the lung into the interstitial tissue. When extensive hemorrhage occurs into the trachea of a rabbit, such as takes place when the trachea and carotids are divided simultaneously, the lungs are found gorged with blood. The bronchial tubes are full, and the alveolar tissue is of a dark brown-red colour.

The blood is not equally distributed; there is always most in the vicinity of the hilus. On microscopical examination of the hardened lung, it was found that the blood was mainly in the bronchial tubes and air-cells, which were most of them stuffed with corpuscles, a few being free. But there was also a large amount of blood in the interstitial tissue of the lung, between the alveoli, and even in the interlobular septa. In places this accumulation was so dense as to mask the normal structure of the lung. Although some of the interalveolar septa contained no corpuscles, the nodal points of the septa invariably presented accumulations. In these spots the connective-tissue framework is normally more highly developed. The appearance of the lung suggested an interstitial hemorrhage, with rupture, and escape of the blood into the air-cells. Indeed, so considerable was the interstitial accumulation that it seemed possible that the process had actually been of that character—that the convulsions which preceded death might have led to interstitial hemorrhage. Some observations were therefore made on rabbits killed by dividing the carotids only, the trachea being left intact. No interstitial accumulation could, however, be discovered, and, of course, there was no blood in the air-cells. Hence it seemed clear that the blood had passed into the interstitial tissue from within the alveoli.

A remarkable feature of the phenomenon was the rapidity with which the passage occurred. The anæmic convulsions came on in three-quarters of a minute after the severance of the carotids, and ceased in a minute and a half. Immediately afterwards the thorax was opened, and the lungs removed and thrown into absolute alcohol. The whole period occupied was not more than five minutes. Whatever be the mechanism, all movement of cells or fluids must cease as soon as the alcohol acts upon the tissues.

That particles passed with readiness from the air-cells into the interstitial tissue had been previously shown by Ins in his experiments to ascertain the mechanism by which grinders' phthisis is produced. He found that cinnabar dust, introduced into the air-passages, could be discovered within the nodal points of the interalveolar septa in from six to twelve hours after its introduction, and that some granules had passed into the bronchial glands.

The path which the blood-corpuscles traverse in their migration could not be discovered. But we know that channels exist capable of affording ready ingress for solid particles from the air-cells into the interstitial tissue. Wywodzoff, Klein, and others have shown that the commencement of the lymphatic channels are in immediate communication with the alveolar and bronchial spaces. Nothnagel's observations show that these openings must be extremely numerous to permit the rapid passage of so many corpuscles into the interstitial tissue. He suggests that it is possible that the dilatation of the air-cells by the blood may dilate the stomata which exist in their walls; since in every case the chief interstitial accumulation took place where the air-cells were the most distended with blood.

The immediate application of these observations to the elucidation of many processes of disease will be sufficiently obvious. The light similar facts throw on the occurrence of interstitial lung changes, as the result of inhalation of fine particles of stone, etc., was pointed out by Ins. Another important consideration, which flows more immediately from Nothnagel's observations, is the question of the absorption of the exudation in croupous pneumonia. It is probable that in the process of the resolution of pneumonia, only a small part of the exuded material which fills the air-cells is expectorated. A greater quantity must be absorbed. The common assumption is that the contents of the alveoli, white and red corpuscles, and fibrin, undergo fatty degeneration, and that the products of this degeneration are absorbed. Nothnagel suggests that the cells may find their

way back into the lung vessels without undergoing degeneration. He admits, however, that the interference with the circulation in the inflamed lung may constitute a difficulty in the acceptance of this view, and we think that the facts of the *post-mortem* room are opposed to it. All pathological evidence goes to show that destruction by degeneration of the exudation precedes its removal from the air-cells, by whatever process that is effected. Cordua, in his investigation into the method by which extravasated blood was removed from the tissues, was able to demonstrate its return into the vessels only so long as it remained in a fluid state.

The destination of blood effused into the air-cells is a very important element in the pathology of the origin of phthisis from hæmoptysis. It must be confessed, however, that these observations do not increase our knowledge of the pathological processes which underlie such a condition; indeed they diminish rather than increase its probability. Nothnagel, in some early but unpublished observations, had failed entirely to produce lung changes by injecting blood into the air-passages of the lungs of the rabbit. No caseous pneumonia was found either days or weeks after the injection; neither was there any blood in the minute bronchial ramifications, in spite of the fact that rabbits neither cough nor expectorate. These observations entirely agree with the negative results of Perl and Lipmann. The experiments of Sommerbrodt were less conclusive. He believed that under some conditions hemorrhage into the lungs would cause a catarrhal pneumonia and phthisis. All, however, agreed that the contents of the bronchi and air-cells were very small in quantity compared with the amount of blood they must have contained, and the explanation of this is completely afforded by the observations of Nothnagel. Admitting the fact that hæmoptysis may, in man, sometimes lead to phthisis, these observations—if we may transfer them to the human lung—show very clearly why such a consequence so seldom follows the hemorrhagic infiltration into the air-cells which must very often take place.—*Lancet*, Jan. 26, 1878.

Aneurism of the Pulmonary Artery.

Dr. BUCHWALD (*Deutsche Med. Wochenschrift*, January 5, 1878) relates a case of this rare condition met with in the clinic of Professor Biermer, of Breslau. The patient, a maid-servant, aged 21, had been always healthy until the last year, during which she had suffered from slight cough, becoming worse in the winter; pain in the left side of the chest, increasing feebleness and cough, expectoration of purulent matter, and on one occasion of blood; night-sweats.

She was admitted into hospital on September 5, 1875. She was a thin, middle-sized blonde; the skin and mucous membranes were pale, with circumscribed circular red patches on the cheeks, such as one sees in phthisical subjects. Here and there on the skin were punctiform hemorrhages. The thorax was small, long, with wide intercostal spaces; the two sides were unequal, the left side being very prominent opposite the junction of the ribs with the cartilages from the second to the sixth; the patient said this had been so from her childhood. The heart's apex-beat could be seen extending over a centimetre in the fifth left interspace, internal to the nipple; but in the second left interspace was another pulsating area, three centimetres in breadth. This impulse, which was more of an undulation than a short pulsation, began at the sternal border, and extended to the left; to the right it could not be felt. During deep inspiration the phenomenon disappeared, but during ordinary breathing it was slight, and most marked of all when breathing was arrested. The pulsation could be felt from the second to the fifth interspaces, but was less visible, and free from thrill, in the fourth and fifth. Thrill began in the third interspace, reached its maximum

in the second, and was lost in the first. It accompanied the systole, but could be followed in the diastole; with a deep inspiration it became indistinct; superficial breathing made it feebler; expiration strengthened both thrill and pulsation. Percussion showed extension of the heart's dulness to the right, and towards the second pulsating spot; there was dulness in the first interspace on the inner side of the parasternal line. In the second interspace the dulness commenced four centimetres outside the sternum, and extended downwards and outwards towards the axilla in a convex line to the position of the apex-beat. To the right the dulness was followed over the sternum to 1.5 centimetres in the fourth interspace. The upper part of the sternum was not dull; below, the heart's dulness was lost in that of the liver. The lungs encroached upon the heart, so as to push the limits of cardiac dulness towards the middle line. At the apex there was a slight systolic murmur, which completely disappeared to the right; but upwards, and especially towards the second pulsating spot, it increased, and attained its maximum in the second interspace; here, indeed, systolic and diastolic periods could not be distinguished, only the strong intensifying of the sharp whistling murmur made the systole recognizable. In the supraclavicular and infraclavicular fossæ, the sharp murmur could be heard above the feeble breath sounds. In the left carotid, sounds were only accompanied by the strong murmur from the second interspace; in the right carotid, a feeble systolic blowing murmur was alone audible. The last was also to be heard in the aorta; the second sound was clear, not accentuated. In inspiration the murmur was everywhere feebler, but did not disappear on the deepest effort. Hæmic murmurs were heard in the veins. The pulses were equal, full, regular, of low tension; rate from 92 to 128. In the lungs there was dulness in the left infraspinous and infraclavicular fossæ, without any infiltrated spot being detectable by auscultation; the latter showed only diffuse catarrh, which existed also in the right lung. Respiration was of the inspiratory type; the sputa were scanty, muco-purulent, only once blood-stained. The spleen-dulness was increased. The urine varied in quantity from 80 to 2000 centimetres per diem, of corresponding specific gravity; no albumen. In the progress of the case albumen and casts appeared in the urine, and œdema began and gradually extended; some weeks afterwards she had a rigor, with a rise of temperature, which before had been normal. The pulmonary symptoms declined. In the heart, systolic and diastolic murmurs became audible in the aortic area. Nearly two months afterwards a small abscess formed in the left groin, which was opened. Signs of pericarditis, with effusion, supervened. The fundus of the eye was normal; the œdema was extreme; she had great catarrh of the lungs; the temperature was generally low. A few days later, petechiæ appeared in the skin, and collapse and death followed.

The *post-mortem* examination showed pericardial effusion; enlargement of the heart, affecting chiefly the left side; an aneurism of the pulmonary artery, of the size of a hen's egg, communicating with the aorta by the persistence of the ductus arteriosus; polypoid excrescences on the wall of the duct and the pulmonary artery and aorta, also on the valves of the aortic, pulmonic, mitral, and tricuspid openings; brown induration of the lungs, with a periarterial abscess and infarct in the right lung; enlargement of the spleen; acute nephritis; hemorrhage into the white substance of the anterior lobes of the brain, opening into the left lateral ventricle.—*London Med. Record*, Feb. 15, 1878.

A Case of Acute Hemorrhage of the Pancreas.

Dr. HILTY describes (*Correspondenzblatt für Schweizer Aerzte*, Nov. 15, 1877) the case of a mechanic, aged 30, tall, stout, and muscular, and having the appearance of a drunkard. One evening he drank a large quantity of beer; in

spite of this he passed a good night; but the following morning he was suddenly seized with a painful tension of the abdomen, which gradually increased, and general *malaise*. On admission to the hospital his extremities were cold, and his forehead covered with a cold sweat. He had an anxious expression, and was very restless; the sensorial functions were undisturbed; the pulse was small and quick, scarcely perceptible; the region of cardiac dulness was increased, but there was no murmur; respiration was quick and difficult; the lungs were normal. The upper part of the abdomen was distended and painful, especially on pressure. The pain and the obesity of the patient did not allow any peritoneal effusion to be discovered. He had had one evacuation in the morning; there was no vomiting, but constant nausea. The diagnosis was uncertain, but it was thought to be a case of acute gastritis, or of poisoning; poultices and tepid injections and wet wrapping were prescribed. Afterwards the stomach-pump was used; and a small quantity of yellowish watery fluid, giving an acid reaction, was removed. An emetic gave some relief. The night was quieter. Next day there was a spontaneous evacuation, but the general symptoms persisted, the pulse being thready, the extremities cold, and the temperature normal. As the patient writhed in bed, it was thought he had intestinal perforation. Opium was prescribed, and ice to the abdomen. There was a slight amelioration, but the symptoms returned, and the patient died delirious at 9 P. M.

At the necropsy, the epiploon and mesentery were found loaded with fat; there was no exudation into the abdomen, nor any trace of peritonitis. The stomach was large; the intestines, especially the ascending and transverse colon, were much distended. The diaphragm was pushed up as high as the fourth rib. In the connective tissue surrounding the pancreas, there was an abundant sanguineous infiltration. The organ itself was double its normal size, firm in consistence, and of a dark violet colour. On section, the lobules were seen to be of a dark colour, and from the interlobular connective tissue a large quantity of bloody serum escaped. In the head of the gland especially there were numerous little extravasations of blood, varying in size from a millet-seed to a cherry-stone. In fact, the whole gland, acini and connective tissue, was infiltrated. Wirsung's duct was not dilated, but the vein running along the lower edge of the pancreas was distended with clots. The spleen and the kidneys were congested; the mucous membrane of the throat was somewhat thickened, and of a grayish colour. At the lower end of the œsophagus, and in the cardia, were some ecchymoses and superficial erosions. The liver was large and fatty. The heart was covered with fat, and its muscular tissue was soft and slightly degenerated. The brain was congested, and the fluid in the ventricles was cloudy.

This case is analogous to one described by Friedreich under the name of acute hemorrhage of the pancreas. Zenker considers that the morbid appearances were not sufficient to account for death, which he assigns to the sudden and violent compression of the solar plexus by the fluid effused.—*London Med. Record*, Feb. 15, 1878.

—

Glycerine in Diabetes.

Prof. BOUCHARDAT observes (*Bulletin de Thérapeutique*, December 15) that more than twenty years since he employed this substance, but the results which he obtained from it were so uncertain and contradictory that he almost ceased to prescribe it. His attention having been recalled to it by several recent publications, he recommenced his trials with it, and with results not very dissimilar from those formerly obtained. In subjects strongly attacked with the disease it seems to do harm rather than good if their regimen be not also changed. In certain cases it acts more favourably, viz., if the quantity of glucose eliminated in the

twenty-four hours is only small, when it aids the disappearance of the last traces; but it may be doubted whether this is or is not a mere coincidence. In emaciated diabetics, or those suffering from habitual constipation, useful effects have followed its administration. He usually gives it in moderate doses, from a teaspoonful to two tablespoonfuls, in tea, coffee, white wine, or water. Given in larger doses the glycerine is only partially absorbed, or a portion passes off in the urine. In glycosuric constipation, two tablespoonfuls with one of salt as an enema are often useful; and Prof. Bouchardat frequently orders chocolate in which the sugar is replaced by glycerine.—*Med. Times and Gaz.*, Feb. 9, 1878.

—

Treatment of Acne Rosacea.

In the *Wien. Med. Wochenschrift* for January 15, Prof. VON HEBRA figures two instruments which he has of late found very useful in the treatment of obstinate acne. One of these is a strong lancet-formed needle, cutting on both sides, and furnished with a stop in order to prevent its penetrating too deeply. With this he makes numerous perpendicular punctures (with a rapidity resembling that of a sewing-machine) for the purpose of destroying the capillary vessels which give rise to the red stripes or sinuous lines visible to the naked eye—proceeding from below upwards, in order that the bleeding may not obscure the progress of the operation. This is easily arrested by compressed wadding. The after-treatment consists in re-application of wadding if the surface remains dry, and in the use of simple ointments when there is suppuration. After the healing, if the destruction of the distended capillaries is not complete, the puncturing must be again performed. The professor refers to six obstinate cases of acne in which he has found the process quite successful. The other instrument is a modification of Volkmann's "scraper," in the form of a small ear-shaped spoon with sharp edges (having lateral prolongations when intended for the deeper-seated products), fixed on a strong short stem with a long handle. This is used for the destruction of new formations in the skin, as in lupus, epithelioma, etc., or for the removal of infiltrations, as in sycosis and acne, and it must be continued to be employed until the whole of the diseased product is removed. The scraping is of no avail in superficial nævoid or acne rosacea, as, owing to the resistance of the cutis, only the epidermis instead of the diseased product comes away. Still, repeated scraping, with its attendant superficial suppuration, is followed by a diminution of the redness of the face, both in acne rosacea and nævoid—probably on account of the obliteration of the minute vessels of the cutis. The instruments may be had at Leiter's, Vienna.—*Med. Times and Gaz.*, Feb. 16, 1878.

—

Two Cases of Psoriasis: the one treated by Prolonged Daily Immersions, the other by Chrysophanic Acid.

Mr. BALMANNO SQUIRE exhibited these cases at a late meeting of the Clinical Society of London (*Med. Times and Gaz.*, Feb. 16, 1878). The one was that of a gentleman aged thirty-two, who had been extensively affected with psoriasis for nine years. He was kept under treatment by prolonged daily immersion in tepid water for exactly six weeks, during which time he submitted on the average to five hours' daily immersion. The temperature most readily borne by the patient during a prolonged immersion was about 90° Fahr. By the end of six weeks, without other treatment of any kind, the patient had lost by far the greater part of his eruption, which presented now only a fiftieth, or at the most a thirtieth, of its original area, and had also got rid of the nocturnal itching which accompanied it. He was now treated with phosphorus "perles" and chrysophanic acid ointment; and in ten days' time presented only such insignificant

traces of the disease that he decided to return home to his duties. Prolonged daily immersion in tepid water has for very many years been employed in the treatment of skin diseases at Leukerbad in Switzerland, and at Baden near Vienna; but this case would seem to show that the less irksome ordeal of spending some hours daily in the bath could suffice to produce fairly good results. The other case of psoriasis was that of a gentleman aged thirty-four, who had been affected with the disease for twelve years. The eruption was chiefly massed over the belly and the loins. He was ordered the use of chrysophanic acid ointment, of a strength of twelve grains of the acid to the ounce of lard; and he was furthermore directed to take two phosphorus "perles" (containing each one-thirtieth of a grain of phosphorus dissolved in oil) three times a day. On the fourteenth day of treatment the patient conceived an impression that the phosphorus was impairing his mental energy, and accordingly he was permitted to discontinue taking the perles. By this time, also, the erythema excited by the chrysophanic acid had entirely subsided. The patient was therefore ordered to resume the use of chrysophanic acid ointment, now made stronger than before, namely, a drachm of the acid to the ounce of lard. In three days' time—that is to say, on the seventeenth day of treatment—all trace of the eruption on his body had completely disappeared, the chrysophanic acid ointment having again excited some erythema. On the twenty-fourth day of treatment the disease still existed on the arms and legs, local treatment with the chrysophanic acid ointment having been still persevered with to the limbs, although, since the seventeenth day of treatment, no further applications had been made to the body, inasmuch as every sign of the disease had gone from the trunk. The patient still exhibited traces of the disease on the limbs.

Dr. TILBURY FOX said that the case cured by immersion confirmed what was already known on that subject, but in private practice the method was hardly applicable. Few could afford the time necessary. The case recorded was one of indolent and chronic psoriasis, and the treatment succeeded, but generally failed when fresh crops were coming out. The other was similar in character, and more than one remedy would suit such cases. For instance, mercurial and carbolic acid ointments would do, so would alkaline baths, and so on. The earlier and more acute stages were more difficult to treat, and here a specific could hardly be sought for. For instance, one form was apt to occur in married women from over-suckling; others, again, in gouty subjects, where totally different lines of treatment were demanded. Again, there was the rupioid form, tending to occur in children, where cod-liver oil suited best; and still again, the malady was apt to occur among over-wrought city men, where the digestion was the chief thing to be looked to. It was only in the essentially chronic form that chrysophanic acid could be said to do good, but it stained both the skin and the clothes, and patients did not like it.

Mr. HUTCHINSON said patients should be warned of the effects of the acid, for often severe erythema followed. What was the real meaning of the word "cure" in psoriasis? It ought to mean relief permanently, or else for a period of years. It was easy to get rid of the scaly symptoms for a period, but what of a longer time? Hebra used bathing, but not the bath referred to; rather a big one was employed, into which half a dozen patients might enter, and scrub each other with coal-tar soap for six hours or so at a time. Cures, as he called them, followed. He thought arsenic and tar, both externally and internally, did much good.

Dr. R. LIVEING could confirm what had been said as to the objections to chrysophanic acid—patients would hardly put up with it. He himself had long used it for ringworm, but the patients complained of the dirty mahogany colour it gave

to their hair. He had long used baths with soft soap and flannel, and on this method half an hour a day sometimes sufficed for a cure. Acute cases constituted the real difficulty.

Dr. CROCKER had used chrysophanic acid for ringworm, but was forced to abandon it. The hair turned purplish, and the erythema following its use tended to spread, with desquamation of the cuticle, and the eyes often became swollen and painful; moreover, the treatment was not very successful. The system of bathing might be made much simpler. In one very bad case a cure was effected by an alkaline bath two or three times a week, and the use of diuretics. In the early stages the use of chrysophanic acid might aggravate the disease.

Dr. WHIPHAM considered that the acid should be used with caution. In one girl who had suffered from psoriasis for five years the acid was applied to the eruption only, yet the face swelled up as in erysipelas. In a more recent case in the person of a flour miller, where the disease chiefly prevailed where there was rubbing, on the arm and legs, the ointment caused pustules and boils on the skin round about.

Mr. B. SQUIRE, in reply, said he considered the balance was decidedly in favour of chrysophanic acid. He could hardly think it more easy to cure a chronic than an acute case, though the latter yielded better to internal remedies. He did not like the use of arsenic, but preferred external treatment. The acid, no doubt, required careful handling; but other things did the same. The hair only became discoloured after the use of soap and water, and the dye could readily be removed by means of benzole.

Surgery.

Anterior Choroiditis.

In an inaugural thesis (Paris, 1877), M. COURSSERANT arrives at the following conclusions: 1. The anterior segment only of the choroid can be attacked by all the pathological processes which are observed in other parts of the membrane. 2. Anterior choroiditis may, under the different forms which it takes, be sometimes sudden, sometimes slow, in its progress, without immediate alteration of the centre of the eye; in spite of the situation of the anatomical lesions, all degrees of diminution of the visual faculty are observed. 3. Primary lesions of the vascular system, deficient nutrition of this region, the irritation to which it is exposed, are the principal causes of the disease. 4. The physician should always be reserved in his prognosis.

The treatment which M. Coursserant recommends consists of antiphlogistic measures, bleeding, rest of the apparatus of accommodation, to be obtained by atropia, and tonics in the case of weak subjects. He rejects altogether the action of syphilis, which is often regarded as the cause of choroiditis.—*London Med. Record*, Feb. 15, 1878.

Diseases of the Lachrymal Passages.

In a communication made to the Société de Biologie in November, 1876 (*Annales d'Oculistique*, July–August, 1877), Dr. BADAL has expressed the opinion that errors of refraction, and especially hypermetropia, play a prominent part in the development of diseases of the lachrymal passages; and he now thinks that he has collected and tabulated facts which, although insufficient to

furnish reliable statistics, nevertheless tend to show the intimate relationship, as to cause and effect, which exists between the two conditions. His opinion is based upon the observation of one hundred and sixty-five cases of lachrymal disorder, in eighty-seven of which, or about 53 per cent., there existed some anomaly of refraction or of accommodation, without any other disease of the eyeball or of its appendages. Thus, hypermetropia was equal in the two eyes in 40 per cent.; presbyopia in 5 per cent.; anisometropia, difference of refraction, in 4 per cent.; astigmatism in 2 per cent.; myopia, equal in the two eyes, in 2 per cent.

Dr. Badal finds one case of lachrymal disorder in every five cases of hypermetropia, but only one in every twenty cases of myopia; in nearly every instance, however, these were complicated with astigmatism, or with unequal refraction in the two eyes. A certain number of lachrymal disorders are to be met with in eyes which are emmetropic; these, according to Dr. Badal, are due to fatigue of the ciliary muscles, and this is not surprising when we bear in mind the congestion of the surrounding tissues which often results from prolonged exercise of accommodation: it is to be noted, moreover, that in cases of myopia, in which accommodation is not actively employed, diseases of the lachrymal passages are very rarely met with. And if it be asked how it happens that the connection between these disorders as cause and effect has so long escaped observation, Dr. Badal would reply that optometry is at the present time more restricted than the use of the ophthalmoscope; that the hypermetropia in these cases is feeble in degree, and is not to be made manifest without careful investigation; and, lastly, that patients who suffer from lachrymal disorders very rarely complain of their eyesight; and surgeons have given their attention to those symptoms which are tangible and self-evident, and which have masked the defective function which was in reality the cause of all the mischief. In short, Dr. Badal considers that in more than half his cases the arrest of the free passage of the tears, and the consequent accidents of inflammation and structural changes within the ducts, have taken their origin in the congestion of the conjunctiva, which is itself the result of overwork imposed upon the ciliary muscle by some error in refraction.—*London Med. Record*, Feb. 15, 1878.

The Influence of the Uterus in Eye-diseases.

At a late meeting of the Obstetrical Society of Dublin (*British Med. Journal*, Feb. 23, 1878) Mr. H. R. SWANZY read a paper on this subject. He said that most eye-diseases were dependent on some distant organs, such as the heart, kidneys, spleen, and the uterus. Up to the present, very little was known concerning the relationship existing between the eyes and the uterus. He thought that this was due chiefly to the fact of few ophthalmologists being experienced gynæcologists, and *vice versâ*. The first disease which Mr. Swanzy brought under notice as having its primary cause in the uterus was iritis, occurring in young girls from about the eleventh to the seventeenth year of age—*i. e.*, within a period varying from two to three years prior to the establishment of menstruation up to two or three years after they commenced to menstruate. Mr. Swanzy was unable positively to connect this disease of the eye with the uterus, but was inclined to believe the uterus the starting-point of the iritis, for three reasons. 1. Iritis was extremely rare at such an early time of life, unless dependent on congenital syphilis, or secondary to corneal diseases. 2. He had never seen a similar case in the male. 3. When the disease was found to occur with a certain frequency at a time of life when the uterus was approaching maturity or had lately reached it, and when all other causes were excluded, the inference was fair that the uterus had given rise to the iritis. The form of iritis in all these cases was

similar; there was little or no pain, and but little vascular injection of the eye or photophobia. The treatment Mr. Swanzy used in these cases was chiefly local during the acute stages of the inflammation; and, when the inflammation had subsided, he gave iron. Inflammation of the optic nerve and retina might depend on disturbances of menstruation. In 1873, Mr. Swanzy had under his care a girl aged 10 suffering from neuro-retinitis, whose menstruation was sparse and painful, and in whom the eye affection always became aggravated at the monthly periods. Cases of optic neuritis had been seen where menstrual disturbances had gone before. Von Gräfe recognized the existence of such a connection. Mooren had seen cases of neuro-retinitis after suppression of menstruation, and he was of opinion that retroflexions of the uterus and ovarian tumours might give rise to the same affection. Atrophy of the optic nerve had been noted repeatedly by Pagenstecher as occurring in women who had suffered from severe menstrual disturbances, which he regarded as the cause of the eye-disease. Retinal apoplexies were sometimes the consequences of cessation or suppression of the menses. Kopiophia hysterica had till lately been classed among eye-diseases, but it was now known to be nothing more than a symptom of an uterine disease. It was not a common disease; and it was only quite lately that it had been fully described by Professor Förster in his article in von Gräfe and Sämisch's new *Handbook of Ophthalmology;* and the pathological conditions of the uterine apparatus invariably found accompanying it by Professor Freund of Breslau were mentioned by him. Dr. Freund had found, by means of a large number of *post-mortem* examinations of women who had complained of these eye-symptoms, that they were uniformly affected with uterine disease, which he claims to have been the first to have recognized.

—

Duplication of the Left Half of the Lower Jaw.

In a dissertation (Berlin, 1877) abstracted in the *Centralblatt für die Medicin. Wissenschaften* for January 5, Dr. O. ISRAEL describes a case of duplication of the lower jaw in a new-born child, in whom the tragus of the left ear was also double. There was a projection as large as a goose's egg in the lower maxillary region, causing considerable disfigurement. The tumour, which was movable, consisted of a portion of lower jaw, containing five embryonic teeth and a distinct condyle, a rudimentary mouth, with indications of lips and tongue, and a confused mass of salivary gland-tissue, mixed with muscular and connective tissue, forming in one part a retention-cyst, while the secretion from the other parts of the gland-tissue escaped by a duct opening externally.

Was this a malformation, or a partially developed second fœtus? Dr. Israel decides in favour of the latter.—*London Med. Record*, Feb. 15, 1878.

—

On Wounds of the Larynx and their Treatment, especially the Value of a Prophylactic Tracheotomy.

In an elaborate and learned article on this subject (*Archiv für Klin. Chir.*, Bd. xxi., Heft. 1, 2, 3, pp. 217, 391, 1877) WITTE presents the following conclusions:—

1. That laceration of the larynx and trachea is very rare—in battle only five in ten thousand wounds of all classes; in private practice they are more frequent; in the former class almost exclusively by fire-arms; in the latter by cutting instruments.

2. The diagnosis is usually easy; a pathognomonic symptom of a penetrating wound of the air-passages is the escape of air through the opening.

3. The progress is always slow; in extensive lacerations repair is not to be expected under thirty to forty days; not unfrequently alterations in the voice,

stenosis of the larynx (very seldom of the trachea), and aerial fistula are ultimate results.

4. The prognosis in incised wounds of the larynx and trachea, with extensive laceration of the soft parts, is much better than in those with but slight laceration, and in punctured wounds. Gunshot wounds of the larynx appear to allow of a better prognosis than those of the trachea, but in both instances more than one-half of all cases are cured.

5. Severe concussions, contusions with marked disturbance of the voice and respiration, and fractures of the cartilages, are indications for a prophylactic tracheotomy.

6. It is likewise indicated where foreign bodies are lodged in the larynx or trachea.

7. Gunshot wounds of the larynx and trachea together, punctured wounds in which the laceration of the mucous membrane is probable, incised wounds, with slight involvement of the soft parts, but marked injury to the cartilages, all render the performance of a tracheotomy necessary.

8. In incised wounds, with free division of the soft parts, and simple lacerations of the trachea, the operation may be delayed, provided the case can be carefully watched, and it is not necessary to transport it further.

9. Incised wounds of hyo-thyroid membrane may be sewed up after a tracheotomy has been done.

10. In incised wounds of the upper part of the thyroid cartilage, after a tracheotomy, sutures may be used through the cartilage.

11. Gunshot wounds of the parts in the neighbourhood of the larynx, with marked destruction of the tissue, indicate a prophylactic tracheotomy:—

(*a*) When interference with either speech or respiration begins to manifest itself.

(*b*) When secondary hemorrhage is feared, and the blood can find its way into the air-passages.

(*c*) When the projectile lies in the vicinity of the larynx, and it is deemed undesirable to remove it.

12. A high tracheotomy is always to be preferred; then section of the cricoid cartilage; if necessary, a low tracheotomy can be done. The earlier the operation is performed the less will be the difficulty, and the better the prognosis.

13. When circumstances permit, the operation is to be performed under chloroform.

14. Catheterization of the larynx, as well as compression and scarification, is to be practised in œdema of the glottis.

15. For a time after the operation, Trendelenberg's tampon canula is to be worn, and two at least should be furnished in the *armamentarium* of every sanitary department and field-hospital.—*New York Med. Journal*, Feb. 1878.

Curious Simulation of Fracture of the Larynx.

The *Gazette Hebdomadaire*, February 8, quotes a curious case related by Dr. MORDILLON in the *Bordeaux Medical*. A little girl, while knitting, fell down in the street, and was found to have received a slight contused wound in the thyroid region, which was accompanied by much pain and a little swelling. A half of one of the needles which she was using had also disappeared. As examination did not reveal the presence of a foreign body, no attempt at its extraction was made. A month later the child was brought to Dr. Mordillon, who found a depression in the thyroid cartilage running from its superior angle downwards, and from left to right towards the junction with the cricoid. This depres-

sion seemed to result from the imbrication of two lateral plates of the cartilage, and gave the same sensation as when the bones of the fœtal cranium are riding over each other during delivery. Crepitation was also felt, and pressure caused pain and suffocation. The presence of no foreign body could be detected. Respiration was normal, but there was a slight alteration in the voice. The lateral movements of the neck were natural and without pain, and there was no dysphagia. The diagnosis was oblique fracture of the thyroid, with, perhaps, the retention of the needle in the neck. At another visit, in about three weeks' time, it was found that an abscess was formed, and on this being opened a knitting-needle nine centimetres long was discharged, and all signs of fracture disappeared. All the signs of this accident were closely simulated; and it is remarkable that so long a foreign body could have remained for such a time without exciting any functional disturbance of the numerous vessels and nerves of the neck.—*Med. Times and Gaz.*, Feb. 16, 1878.

—

Gangrene of the Testis.

In surgical literature, some few cases are to be met with of spontaneous gangrene and sloughing of the testis, suddenly occurring in a previously healthy subject. Of somewhat more frequent occurrence are instances of spontaneous and severe orchitis, terminating in extreme atrophy. With the view of throwing some light on the causation of these singular morbid conditions, Professor Volkmann has recently reported (*Berliner Klinische Wöchenschrift*, No. 53, 1877) a case of acute hemorrhagic infarction of the testis, terminating in spontaneous gangrene. In this interesting case there are very many circumstances favouring the view of an embolic process, although there is an absence of sure and positive evidence on this point.

A youth, aged 15 years, whose health had previously been very good, and whose testicles had never been affected from injury or disease, was suddenly attacked on July 5 with severe pain in the abdomen, and diarrhœa and vomiting. On the following morning there was less abdominal pain, but much tenderness in the left testicle, together with considerable swelling of the corresponding half of the scrotum. At this time there was much fever, with thirst and headache. On July 8, the swelling and pain in the scrotum having considerably increased during the interval, the patient came for the first time under the notice of the author. He was then prostrate, and in a state of collapse, and the facial expression indicated acute peritonitis. The anterior abdominal wall, however, was lax, and free from tenderness, even on firm manual pressure. There was but moderate elevation of the temperature, the pulse was 100, and the respiratory and circulatory organs were in a normal condition. There was hard inflammatory œdema of the whole scrotum, and the surface of the left half was deeply congested, extremely tender, and very hot. With the exception of one spot on its anterior surface, the whole of the left side of the scrotum was as "hard as a board." Professor Volkmann diagnosed the case as one of spontaneous and acute suppurative inflammation of the tunica vaginalis, and at once proposed to lay open the supposed pus-containing cavity. Chloroform having been administered, and antiseptic precautions taken, an incision was made into the left half of the scrotum from a point over the external abdominal ring downwards. The edges of this incision gaped widely, exposing a considerable thickness of scrotal wall, that had been converted through lymphatic œdema into a firm transparent myxoma-like tissue. There was a free discharge of serous fluid from this wound, but the tumour did not diminish. After frequently repeated applications of the knife, the tunica vaginalis, of a dark blue colour, was exposed at the bottom of the wound. This membrane having been incised, exit was given to about a table-

spoonful of black blood, and the testis, enlarged to four or five times its normal size, was exposed. The surface of the swollen organ was smooth and glistening, and of an uniform deep-red colour. The surface of the epididymis was similarly congested, and the plexus pampiniformis was found to be filled with coagulated blood. The thrombosed veins were much distended, and presented numerous bulging processes, suspended from the surfaces of the epididymis and spermatic cord, and hanging down like berries within the sac of the tunica vaginalis. As there were no indications that gangrene had commenced in the testis, Professor Volkmann allowed the organ to remain, and concluded the operation by bringing together, though not into close contact, the edges of the incision, by means of sutures, in order to prevent prolapse. The seat of the operation was dressed antiseptically. On the following day the fever was much reduced, and the pain and swelling in the scrotum had commenced to diminish. During the after-treatment, the surfaces of the wound remained in an antiseptic condition. The discharge was scanty, and consisted of a yellowish serous fluid. The surface of the testicle exposed at the bottom of the incision presented, on the second day, a network of yellow streaks. On the twelfth day after the operation, there was no pain or abnormal swelling on the left side of the scrotum. At this period it was quite evident that the testicle had undergone necrosis. The dead and mummified organ protruded more and more from the surface of the scrotum, and, early in the following month, was detached in two portions, leaving but a very small living portion of the epididymis behind.

Microscopic examination of numerous portions of the necrotic mass gave an invariable result, and proved the total absence of any signs indicating that the hemorrhagic infarction had been preceded by an inflammatory process. In no part of the interstitial testicular tissue could any traces of progressive histological changes be discovered. No indications of wandering processes could be seen, and no accumulation of lymphoid elements. All the objects that could be seen were vessels extremely dilated and distended by red blood-corpuscles; and, here and there, extravasated blood in various stages of metamorphosis, with blood-pigment either free in the tissue, in the form of scales and granules, or inclosed in cells. The epithelium of the seminal tubules was clouded.—*London Med. Record*, Feb. 15, 1878.

—

Aspiration in Effusion into the Knee-Joint.

Dr. DIEULAFOY, fortified by the success that has followed its employment in additional cases since his work was published, communicates an article to the *Gazette Hebdomadaire* (February 22), in which he insists in the strongest terms on the complete innocuity and great utility of aspiration as applied to affections of the knee. As regards the innocence of the operation, this he thinks may be fairly inferred from the fact that among 150 aspiratory punctures of the knee performed for effusions of various kinds, whether serous, hæmatic, or purulent, and whether of rheumatic, traumatic, or blennorrhagic origin, one only was followed by accidents, and this case was complicated with fracture. It has often happened that the punctures have been repeated from three to six times in the same place in the very painful and often obstinate hydrarthrosis of acute rheumatism.

But, to obtain this innocuity, the operation must be methodically performed, and the needle No. 2 only employed. The limb is placed in extension, the joint being surrounded by a caoutchouc or linen bandage, leaving the point exposed towards which the liquid has been pressed, and where the needle has to be passed in. This place of election is the external *cul-de-sac* of the synovial membrane, opposite the upper end of the patella, and at about two centimetres exterior to

this bone. The No. 2 needle, which is to be *exclusively* employed, only measures a millimetre in diameter, and when passed into the joint is to remain in a fixed position while the fluid is aspired. All manipulation of the joint is to be avoided as causing unnecessary irritation. When the liquid has been removed, the needle is withdrawn and compression employed. The knee is surrounded by a layer of wadding, pretty firm compression being maintained by means of a flannel or linen bandage. A roller is also to be applied to the foot and leg in order to prevent the production of œdema. Twenty-four hours afterwards the joint is examined, and if there is no or only very slight reproduction of the liquid, compression is again had recourse to; but if the effusion has been reproduced in a notable quantity, aspiration should again be performed before reapplying the compression.

With respect to the efficacy of aspiration, it is most marked and most rapid in cases of *effusion of blood* into the joints from injury; for while a simple hydrarthrosis may require its four or five aspirations, an effusion from external cause, as a rule, yields to one or two. Here, in fact, the cause is purely local, and is not attended with a pathological condition of the serous membrane. The exudation, if left to itself, might become slowly absorbed, or it might act in some cases as a foreign body in the joint. But when removed, the serous membrane is placed in the most favourable condition; and purulent transformation has never been met with after the operation. In *sero-fibrinous effusions* we meet with two categories of cases—first, those (which are by no means rare) wherein the effusion disappears after two or three aspirations, *i. e.*, after treatment lasting from three to eight days; and secondly, the chronic hydrarthroses, for which from four to six operations are required, lasting over from twelve to eighteen days. Effusions dependent upon *gonorrhœa* are peculiar and more obstinate; and although puncture of the knee gives relief, the liquid soon forms again. As compared with other means of treatment, aspiration possesses a valuable superiority in the rapidity with which it relieves the pain, sometimes extremely violent, attendant upon acute rheumatism and traumatic effusion.—*Med. Times and Gazette*, March 2, 1878.

—

Rupture of the Popliteal Artery and Vein.

Mr. WALTER RIVINGTON, Surgeon to the London Hospital, records (*British Med. Journ.*, Jan. 12, 1878) a case of rupture of the internal and middle coats of the popliteal artery, and complete rupture of the popliteal vein, for which primary amputation of the thigh was successfully performed.

Mr. Rivington offered the following interesting remarks based on this case. Rupture of the popliteal artery is, I believe, generally associated with displacement of the tibia at the knee-joint, and involves usually all the coats of the vessel. Such cases have hitherto of necessity required amputation; and the only question which arises in reference to the operation is, whether it is better to perform it at once as soon as the lesion is diagnosed, or to wait until gangrene has commenced. I think that the opinion of most surgeons would be strongly in favour of early amputation, whereby the patient would be saved from all risk of his blood becoming contaminated by the products of the decomposition of his tissues. More especially would this consideration weigh with a surgeon not yet converted to the antiseptic system, and attached to a metropolitan hospital where pyæmia is prevalent and mars the success of operations, however well conceived and executed they may be. In a primary amputation, the surgeon obtains healthy or nearly healthy flaps; in a secondary amputation, after gangrene has commenced and is spreading, he may have to cut through tissues infiltrated with inflammatory exudation.

In reference, however, to the actual results of cases, I am not in possession of sufficient data to determine the point. That secondary amputation may be attended with a very satisfactory result is shown by several reported cases. A case is related by Mr. Jackman in the fourth volume of the *St. Bartholomew's Hospital Reports*. The patient was a healthy farmer fifty-six years of age. He was superintending his men, who were removing some large stumps of old trees. The men had placed a chain round one tree, and, while the patient was standing with his back to them, the horses employed made a sudden plunge forward, which tightened the chain with a jerk and caused it to catch him just under the knee and throw him down with great force. Gangrene set in ten days after the accident, and amputation was performed above the knee four days later. The popliteal artery was torn across, but its ends were surrounded by a tumour about the size of a pigeon's egg, which had the appearance of a false aneurism. Both ends of the artery were closed. The state of the popliteal vein is not described.

Again, in the fifth volume of the *St. Bartholomew's Hospital Reports*, Mr. George Lowe has recorded two cases of complete dislocation of the tibia forwards at the knee-joint, with rupture of the popliteal vessels. The first patient was a fine healthy collier thirty-six years of age. Amputation was performed in the upper third of the thigh six days after the accident, when gangrene supervened. Both the popliteal artery and vein were found completely torn across. The patient made a good recovery. In the second case, amputation was performed in the upper third of the thigh on the third day after the accident. The popliteal vessels were completely torn across. The patient was a comparatively feeble man thirty-two years of age, but he recovered well. The success of these three cases may be partly ascribed to the fact that the operations were performed in the country, and the success of two out of the three may be also ascribed to the healthy condition of the patients. It is worthy of note, however, that, in Mr. Lowe's cases, the accession of gangrene compelled amputation in the upper third of the thigh, whereas primary amputation could be performed, I should think, in most cases in the lower third. This difference tells considerably in favour of amputation before the occurrence of gangrene.

As a general rule, I think it may be stated that, in cases caused by contusion or dislocation, the popliteal artery can scarcely be torn across, either partially or completely, without corresponding injury to the popliteal vein. This complication must necessarily enhance the gravity of the case. Apart from additional interference with the circulation caused by interruption to the current of blood, the accompanying extravasation would be increased, and the probability of a circumscribed false aneurism forming and limiting the effusion would be considerably lessened.

In the case which I have related, the lower part of the thigh, the popliteal space, and the upper part of the leg were infiltrated with blood, and the knee-joint was distended, the foot was cold and becoming mottled, and yet the effused blood was derived wholly from the ruptured popliteal vein.

Rupture of the inner coats of a large artery is a lesion probably of unfrequent occurrence, and, although I have not had time to search in the various medical periodicals for cases, I believe that comparatively few have been placed on record. It is a lesion, however, which might readily be overlooked or mistaken for embolism. Where, for instance, the internal and middle coats of an artery are turned down and block up the artery, pulsation will be traceable as far as the obstruction, whilst the distal portion of the artery will be pulseless, at least as far as the first large branch, and the limb below, especially if the lower extremity be the seat of the lesion, will be colder than its fellow, just as in the case of an embolic block in the artery. Mr. Pick states that there is a specimen of partial

rupture of the left axillary artery in the St. George's Hospital Museum, showing the two inner coats turned down, and involving the vessel in the third part of its course. It was taken from a man who died of an injury to the head. During life, pulsation could be traced to the lower part of the axilla. This is evidently the same case as that related by Mr. Holmes in his text-book of the *Principles and Practice of Surgery*. Mr. Holmes states that "the symptoms of the injury were so clearly marked that it was easy to diagnose both the nature and the precise seat of the lesion." The superficial situation of the artery at the injured spot rendered it obvious that the torn coats had been pushed into the tube of the vessel by the blood, so as to close it, and the condition of the artery was exactly verified by *post-mortem* examination. A second specimen in St. George's Hospital Museum shows a laceration of the internal and middle coats of the femoral artery. A third case has been related by Mr. Pick in the seventeenth volume of the *Transactions* of the Pathological Society. The patient, twenty-five years of age, received a violent blow from a crowbar on the front of the right thigh, the effect of which seems to have been to cause a partial rupture of the popliteal artery. He experienced a sudden and intense pain at the back of the knee-joint, lasting some minutes and causing him to feel very faint. The pain passed off, and he resumed his work as a navigator, continuing at it for a week, in spite of pain and swelling of the limb. After walking several miles on the sixth day after the injury, he experienced pain so severe, and so much swelling, that he had to be conveyed home and confined to bed. Five weeks later, he was admitted into St. George's Hospital in a state of collapse and with enormous swelling of the left leg. Amputation of the thigh was performed. The patient rallied, but died of pyæmia on the nineteenth day after operation. The popliteal artery was found torn across, but not completely, a strip of the anterior wall still uniting the two ends. The vein was not injured, but its walls were thickened.

Partial rupture of a large artery may lay the foundation for an aneurism, either circumscribed or diffused. Mr. Pick has related, in the sixth volume of the *St. George's Hospital Reports*, a case of the kind. A policeman, thirty-one years of age, strained his left thigh. Five months afterwards, he was obliged to give up duty and go into the hospital, a pulsating swelling having appeared on the inner side of the thigh. Digital compression was tried, but proved inefficacious, and the swelling of the limb increased so much, that gangrene supervened and necessitated amputation at the hip-joint, from which the patient succumbed. The aneurismal sac was situated at the junction of the femoral and popliteal arteries, and seemed to be largely formed of the external coat of the vessel. I have also placed on record a case of traumatic axillary aneurism, in which it was an open question whether a complete or partial rupture of a segment of the arterial circumference was the primary lesion. The patient was seventy years of age. Four days before admission, he had fallen out of a cart and displaced his left humerus at the shoulder-joint. Two days after the accident, the dislocation was reduced by a practitioner by extension with the foot in the axilla. On admission, there was considerable, but not excessive, swelling of the shoulder-joint, without pulsation in the swelling. The pulse beat naturally at the wrist. A small hard lump, about the size of a pigeon's egg, could be felt at the base of the axilla, over the site of the axillary vein, and not receiving impulse from the axillary artery. Under these circumstances, more fully detailed elsewhere, I diagnosed an effusion of blood into the axilla and shoulder-joint, stating my belief that the blood came, not from a ruptured axillary artery, but either from smaller vessels or from the vein. Strict rest, with bandages only, was enjoined to promote absorption. A month later, when the patient was not under my charge, aneurismal symptoms appeared, pulsation and *bruit* being both perceptible, and the pulse at the wrist

became feebler. Various suggestions as to treatment were made, the most prominent being ligature of the subclavian artery; but the patient declined operative interference. Ultimately, ulceration of the skin took place, hemorrhage occurred, the axilla was laid open, and the injured vessel was secured at the seat of lesion. A transverse aperture was found in the third part of the course of the axillary artery, occupying about a third of the circumference of the artery. In view of the uncertainty as to the source of the effusion of blood in this case, and the advanced age of the patient, which rendered any operative interference at any stage of his case wellnigh hopeless, there can be no doubt as to the propriety of the treatment recommended in the first instance by myself. I am pleased to have the opportunity of quoting a published opinion of my colleague Mr. Maunder in reference to this subject. In his Lettsomian Lectures (*vide Lancet*, February 27th, 1875, page 295, Case 24), Mr. Maunder speaks strongly against the application of a ligature to the subclavian artery, and states that either of the two other means of treatment at our disposal, amputation at the shoulder-joint and laying open the axilla, would in all probability have terminated fatally. This opinion effectually disposes of the suggestions made at the time that ligature of the subclavian artery ought to have been performed, and that it would have been better to operate at an early period in the history of the case.

A point of considerable interest arising out of this case is the possibility of locating the seat of injury in some of the cases of ruptured axillary artery. It is evident that, if the third part of the artery be involved, and if this can be rendered probable, the severe procedure of laying open the whole anterior wall of the axilla might be avoided. A careful exposure of the third part of the artery would then be sufficient, combined with a simultaneous removal of the clots in the axilla. The introduction of the finger would probably enable the surgeon to trace the vessel and find out where pulsation ceased or became less marked even in a case which he had not previously seen. If, however, the case had come under his observation early, and there existed, as in my own case, a small hard circumscribed lump over the third part of the course of the vessel, the diagnosis would be rendered more probable. At all events, a more prolonged search for the seat of injury should be made whenever such a course is practicable, without danger of serious hemorrhage continuing during the exploration.

Next, I would strongly recommend the application of the stethoscope over the site of an artery which there is any reason to think is ruptured either partially or completely. There is good reason to believe that, by means of auscultation, partial and complete ruptures may be diagnosed in some cases shortly after the injury, and when pulsation cannot be perceived. Mr. Holmes states he has never seen any case where pulsation was present in the extravasated blood in connection with a complete subcutaneous laceration of an artery; but he says that, in some cases, a *bruit* can be heard (*Surgery: its Principles and Practice*, page 78).

Lastly, in these days of antiseptic surgery, when knee-joints can be laid open and fingered with impunity, when the surgeon is freed from all anxiety as to the results of operations, when exposed blood-clots cease to break down and decompose, but become organized in the open wound under the charm of carbolic acid and the antiseptic dressing, it may fairly be asked whether, in such cases as that which I have related, amputation should not be set aside until the wounded vessels have been sought for and tied in the popliteal space. Some of the extravasated blood could be removed by the operator and the rest be allowed to become either organized or absorbed; and, if the knee-joint had been opened by the accident, the triumph of antiseptic surgery would be all the greater. The only possible question would be, whether the circulation in the member could be carried on sufficiently to prevent the occurrence of gangrene. If this question should be

capable of receiving an affirmative reply, no excuse would be left for the mutilation hitherto regarded by septic surgery as indispensable to save the life of the patient.

—

Spontaneous Aneurism of the Arteria Dorsalis Pedis.

A labourer, aged 29, was admitted into the London Hospital, under the care of Mr. ADAMS, on account of a swelling, about the size of a small nut, situated over the outer side of the astragalo-scaphoid articulation. He had first noticed this a month before his admission, his attention being called to it by finding his boots tighter than usual. He was then in good health, and he could not account for the swelling in any way. As the swelling gradually became larger and painful, he was induced to come to the hospital. On admission, the tumour was as large as a full-sized walnut; its outline was hemispherical, resting on its flattened base; the skin over it was red, tense, and shining, looking like an acute abscess on the point of bursting. On careful examination, it was found to present every important symptom of an aneurism. There was œdema of the foot and ankle, and of the lower part of the leg. There were no indications of any other changes in his vascular system, and no indications of syphilis. The leg was placed on an inclined plane, and lead-lotion was applied to the foot. The œdema and pain quickly subsided, but the skin over the tumour became thinner. A tourniquet was applied to the femoral artery to diminish the force of the blood-current, and the limb was bandaged.

On the fourth day of treatment the tumour was found to be about the same size, but the skin over it was thinner, with superficial vesication. Under these circumstances, it appeared necessary to operate, and three methods presented themselves for consideration: 1. To cut into the sac and tie both ends of the vessel, as in a case of traumatic aneurism; 2. To tie the anterior tibial just above the annular ligament; 3. To tie it in the upper part of the leg. Against the first method was the probability of suppuration amongst the tendons on the dorsum of the foot, combined with the difficulty of finding the two ends of so small a vessel, and the risk of the vessel being diseased at the seat of ligature. Against the second method was the risk of suppuration among the tendons. The artery was, therefore, cut down upon in the upper part of the leg, and a catgut ligature was placed around it without difficulty; on tightening this, all pulsation in the tumour ceased, and its size sensibly diminished. The wound was closed with wire sutures, and the limb wrapped in cotton-wool. The day after the operation the skin became black over the tumour, suggesting suppuration, though the man's general condition gave no confirmation of this opinion. In the evening his temperature rose to 104.2° Fahr., with a pulse of 102; and there was a slight return of pulsation in the tumour perceptible to the eye as well as to the finger. Mr. Hutchinson saw the case in consultation, and agreed that, though the appearances were in favour of secondary suppuration, it would be better to leave the tumour untouched.

A fortnight after the operation, pulsation was entirely absent from the tumour; its centre was covered with a leathery scale, from the edges of which a serous fluid was escaping; fluctuation was distinct; there was no suppuration, and there appeared no chance of consolidation occurring. There was a varying amount of pain in the foot, and the discharge from the wound, where the ligature had been applied, was profuse. The patient's general health remained good. It was now determined to open the sac; this was done by Mr. Rygate, house-surgeon, with antiseptic precautions, and nothing but currant jelly-like clots were found. The leg was kept on a McIntyre splint. Suppuration soon followed, and free irrigation was used, under which treatment the wound presented a

healthy appearance for some days. A week after the tumour was opened, the wound was explored with the finger, and the hollow on the outer side of the astragalo-scaphoid joint was found to communicate with that articulation; this had probably been brought about by the aneurism. From this time the patient's condition progressed adversely; the discharge was profuse both from the upper wound and from the foot; suppuration extended all round the foot and into the ankle-joint, and no alternative was left but amputation; this was performed three months after admission to the hospital; the patient then progressed satisfactorily, and left the hospital two months later.

The subsequent examination of the limb was unsatisfactory, the protracted suppuration having so altered the various structures as to render it impossible to trace them. The astragalo-scaphoid and anterior astragalo-calcanean articulations were the seat of suppuration, the articular cartilages being quite destroyed, and the bony surfaces rough. No other joints were involved; but all the tissues of the sole appeared as an almost homogeneous mass of inflammatory deposit.

Mr. Adams remarked that he had been unable to find any recorded case of a spontaneous aneurism in this situation; and that, even if other cases have been or should be seen, this case will probably remain unique as to many of its features, especially the thinness of the sac and the early occurrence of appearances of suppuration. Notwithstanding the unfavourable result, the line of treatment adopted appeared to be the most appropriate. There could be no doubt that the aneurism had made its way into the astragalo-scaphoid joint at the time when the man was first seen (although this did not so appear at first), and, had the sac been cut into and the ends of the vessels tied, in addition to the difficulty of finding the vessel, there would have been the chance of its being diseased, and the complication of a direct opening into the joint. Again, if the ligature had been applied immediately above the annular ligament, there is no reason to suppose that the result would have been any better as regards the amount of suppuration, and there would have been an additional chance of the vessel being diseased.—*British Med. Journal*, Dec. 8, 1877.

The Treatment of Varix by the Subcutaneous Injection of Alcohol.

A new method of treating varicose veins was described by Dr ENGLISCH at a recent meeting of the Vienna Medical Society. By means of an ordinary hypodermic syringe, from fifteen to twenty drops of a mixture of alcohol and water, in equal parts, are injected into the cellular tissue beneath the vein, which, together with a fold of skin, has been previously raised by the thumb and forefinger. The injection gives rise to a small swelling, and on close observation the vein may be seen to contract. More or less infiltration is observed on the third day, and in very sensitive patients the skin is apt to become red, and even a small abscess may form, the vein itself not becoming involved in the suppuration. As the infiltration becomes firmer and smaller, the vein also diminishes in size and gradually becomes hard and cord-like. In some cases one such injection may suffice to effect a cure of the varix, but in the majority the operation has to be repeated several times. The results are most successful when the dilated veins form a plexus, but the treatment is more difficult when there are many branches. The pain during and after the operation is very slight; the length of time required for the subsequent treatment varies according to the gravity of the case. In cases where the result is not entirely successful, the operation appears to be a valuable auxiliary to other palliative measures. Dr. Englisch claims for his method that it is absolutely free from danger. He was induced to make trial of it for the cure of varix in consequence of the excellent results he obtained from the use of similar injections for the radical cure of hernia.—*Med. Examiner*, Feb. 21, 1878.

Apparatus for Transverse Fractures of the Patella.

MOULARD describes in a thesis (1877) an apparatus invented by Dr. Duplouy for transverse fracture of the patella, and of which he has seen the good effects at the Rochefort Hospital.

The description of this apparatus is as follows. Dr. Duplouy, chief surgeon to the navy, employs small bands covered with collodion as a means of holding the fragments together in fractures of the patella. He envelopes the lower segment of the limb with a silicated bandage, reaching half way up the thigh, but open in front and at the sides of the knee. This bandage is applied over a thick layer of cotton wadding. Below the popliteal space he places a padded wood splint, which reaches half way up the thigh, and descends half way down the leg. When the silicated bandage is completely dry, he brings the fragments of the patella together in the following way. Threads of knitting cotton, each about twelve inches long, are placed in juxtaposition in a sufficient quantity to form a bundle four-tenths of an inch in diameter. He immerses the middle portion only of this bundle in collodion; then he arranges an upper bundle, of which the whole is applied four-fifths of an inch above the upper semi-circumference of the patella, forming a concentric curve around it as far as the level of the transverse diameter of the bone; a lower bundle is arranged in the same way at the lower part of the patella. Thus the two bundles are inclined the one towards the other, and the patella is completely surrounded. Several layers of collodion are then applied with a brush over the maintaining bundles and the skin above and below. The apparatus being thus arranged, the collodion is allowed to dry completely, and the free tails are brought together and tied two and two on each side of the patella. In proportion as the distance between the two fragments is lessened, the ends are drawn closer. Care must be taken to add every day fresh layers of collodion above and below, to maintain the solidity of the apparatus.—*London Med. Record*, Jan. 15, 1878.

Midwifery and Gynæcology.

Treatment of Obstinate Vomiting during Pregnancy by Dilatation of the Cervix Uteri.

A woman, aged 22, in the second or third month of her first pregnancy, entered the Maternity Hospital of Santiago, under the care of Dr. A. MURILLO, suffering with incessant vomiting (*Revista Medica de Chile*, Año V, num. 6). She was very weak, had gastric distress, and vomited every two or three minutes, ejecting food, bilious matter, and mucus. The tongue was coated, the pulse 120 per minute and feeble, the skin dry and hot, and giddiness like that of sea-sickness prevented her from sitting up. As pepsin, calmatives, tonics, ice, milk, etc., had been tried without result, Dr. Murillo determined to resort to dilatation of the neck of the uterus, as recommended by Dr. Copeman, of Norwich, before resorting to measures to induce abortion. He therefore introduced the finger into the softened cervix as far as the internal orifice, and kept it there for two minutes. He then ordered ice-cold milk-punch by the mouth; and broth, pepsine, and hydrochloric acid by enema twice daily. The cervix was dilated in a similar manner four different times, at intervals of one or two days; and morphia was given to produce sleep, which, however, did not have the desired effect. At

the end of a week the improvement was very marked, the patient vomited less frequently, retained the light aliment allowed, and could sit up without being giddy. In eleven days she left the hospital to go to the country, not entirely cured, but very greatly benefited.—*London Med. Record*, Feb. 15, 1878.

—

Note on Two Contrasted Forms of Weak Labour.

Dr. MATTHEWS DUNCAN communicated to the Edinburgh Obstetrical Society (*Edinburgh Med. Journal*, Feb. 1878) a note entitled as above, of which the following is an abstract:—

"The two forms of weak labour spoken of by Dr. Duncan in this paper are frequently confounded with one another with injurious practical results; but they are essentially different, and require a correspondingly different treatment. The one form is common and well known, the other has only been recognized of late years, and is not yet at all well known. The common form depends upon inertia of the uterus, and is most frequently seen in multiparæ who have had many children and are elderly. In this case, the uterus is not stimulated to sufficient activity, and the delay is due to inefficiency and infrequency of the pains. The stage of the after-birth is apt to be attended with hemorrhage. The rarer form is due to a quite different cause, and is, in many respects, a contrast to the former. It occurs chiefly in primiparæ, or in young women who have a special nervous mobility. Here the uterus is unduly but morbidly active. The tonic permanent contraction goes on with premature and injurious rapidity; the intermittent pains are frequent and painful, but inefficient. The body of the uterus, with its fundus higher in the abdomen than usual, is retracted over the body of the child, so that it forms only a comparatively small cap over the lower fœtal parts, and a distinct rim or sulcus can be felt a little below the umbilicus, where the contracted uterine body is attached to the greatly expanded cervix. The condition of the uterus in this form is similar to what is found in labours where the advance of the child has been long obstructed, and it is attended with like danger, yet there is no apparent difficulty in propelling the child and no obstruction. The treatment of two forms of labour so distinct from one another is naturally different. In the former, where the delay is due to inertia, the uterus is to be stimulated by oxytocics—of which ergot is the best—and by kneading, rubbing, and similar means. In the latter, or premature uterine retraction, the uterus is not to be stimulated but soothed; opium and chloroform may be useful, but all oxytocics are to be avoided. Early delivery, if necessary with the forceps, is desirable. A case is given in which the second of these two forms was accurately observed."

—

Extra-Uterine Pregnancy treated by Gastrotomy.

Dr. ROUSSEAU, of Epernay, reports (*Union Médicale et Scientifique du Nord-Est*, 30 September) a case of extra-uterine pregnancy, in which gastrotomy was performed five months after the death of the fœtus, and fourteen months after the commencement of the pregnancy. In order to produce adhesions and prevent opening into the peritoneal cavity, the actual cautery was used. A knife-shaped instrument was heated to a white heat, and with it the anterior wall of the abdomen and the placenta, which was attached to it, were gradually divided: six sittings, at intervals of five or six days, were required for this purpose. After the sixth sitting, the patient's condition was such as to render longer delay unadvisable, and the remaining portion of the placenta, which was about two-fifths of an inch thick, was divided with a bistoury. A little black blood escaped when the placenta was cut. The head could now be felt, and, as it seemed large, craniotomy was performed, and the bones of the cranium re-

moved piecemeal. The entire fœtus was then taken away without difficulty. Without the brain, and after being two days in alcohol, it weighed over six and a half pounds. The placenta was firmly attached to the abdominal wall, and bled on puncture. For fear of hemorrhage and of peritonitis, no attempt was made to remove it or the membranes. The patient did well immediately after the operation, but a few days afterwards was seized with a phlebitis, from which, however, she recovered speedily. There was no peritonitis at any time. The placenta did not slough out, but gradually diminished in size, and became involved in the cicatrix. Ten weeks after the operation the patient left the hospital, with a fistulous opening in the abdomen, from which a small quantity of thick pus escaped. This opening remained for several years, and during this period a tumour formed by the placenta and membranes could be felt in the abdomen. M. Rousseau alleges that this case proves that the placenta and membranes can be left without fear in the abdominal cavity after gastrotomy, provided they are still living and attached. He thinks that the adoption of this practice as a rule will diminish greatly the unfavourable chances of the operation. In this case the cauterizations were not, as it turned out, necessary to prevent opening into the abdominal cavity, since the attachment of the placenta to the anterior wall of the abdomen removed all danger of that. They proved very useful, however, in preventing hemorrhage from the living and vascular placenta.—*London Med. Record*, Feb. 15, 1878.

Cæsarean Section and Removal of Uterus in a Case of Osteomalacia.

Dr. SPÄTH, at a late meeting of the Imperial Royal Medical Society of Vienna, described a case of osteomalacia, in which he had successfully performed Cæsarean section, with extirpation of the uterus. The patient was a woman aged 40, in her tenth pregnancy. She had had five labours at full term; had aborted three times; and the ninth labour was completed by perforation of the child's skull. She had suffered from osteomalacia for five years, and attributed the disease to the destitute circumstances in which she was. On May 29 she was admitted, while pregnant, under Dr. Späth, on account of osteomalacia. She was much emaciated, and her skin was pale; she had bronchial catarrh, the urine contained much albumen, and there was considerable œdema of the lower limbs. She also complained of pain in the loins, apparently due to the osteomalacia. Careful examination showed that the pelvis was greatly narrowed, and that the Cæsarean operation was absolutely indicated. As labour would not be due for some days, Dr. Späth had an opportunity of using means to improve the patient's strength. She was put in a separate room, and her nurses were instructed to give notice as soon as labour-pains set in. On reflection, Dr. Späth came to the conclusion that in this case the preferable mode of proceeding would be to perform the Cæsarean section under Lister's antiseptic plan; and, if the uterus did not completely contract, and there were consequently reason for fearing hemorrhage into the peritoneal cavity, to totally extirpate this organ. He was led to this conclusion, on the one hand, by remembering that every case of Cæsarean section performed in the Vienna Lying-in Hospital during the last century had proved fatal, either from peritonitis or from violent secondary hemorrhage; and, on the other hand, by the successful results of extirpation of the uterus, obtained by Péan of Paris, and Porro of Padua. On June 2, in the evening, labour-pains set in; and at 8.30 P. M. the operation was performed under the carbolic spray, in the presence and with the assistance of Drs. Karl Braun and Weinlechner. An incision was made in the linea alba below the umbilicus, the uterus was laid open, and a living fœtus was removed without

difficulty. The commencement of energetic uterine contraction was now waited for; an endeavour to promote it had been made by injecting ergotine previously to the operation. As, however, the contractions gradually diminished, and the hemorrhage from the uterus increased, and could not be arrested by the application of sponges dipped in iced water, the removal of the uterus was judged necessary. The chain of the écraseur having been fastened round the uterus near the neck, the organ was lifted out of the wound, and Dr. Späth divided, by free cuts with a scalpel, the body from the cervix. The abdominal cavity was carefully cleansed, the wound was united, and the pedicle of the uterus was fastened to the lower angle of the wound. The whole operation occupied scarcely an hour. The patient soon came to herself, and complained little of pain. The subsequent progress of the case was unexpectedly favourable; the highest temperature which was observed was 38.6 cent. (101.48° Fahr.). The wound in the abdominal wall healed rapidly, leaving only a fistulous opening leading to the neck of the uterus. The albuminuria and œdema of the limbs disappeared, the patient's condition was improved by the use of champagne, and she complained less of the bronchial catarrh. The uterine pedicle was detached on the tenth day. On the thirty-eighth day she sat up for the first time, and, eleven days later, was moved to another room, and walked without help into the garden. On September 18 she was discharged cured, with instruction to report herself every week. In October the fistulous opening completely closed. Dr. Späth showed the woman, who appeared to be in perfect health and good condition. She had had no further indication of the osteomalacia. Dr. Späth referred also to a second case in which he had operated in a similar way last September. The patient, however, had symptoms of septicæmia when she was admitted to the lying-in hospital, and died after the operation.—*London Med. Record*, Feb. 15, 1878.

—

Use of Hot Baths in Secondary Puerperal Hemorrhage.

Dr. BAILLY relates (*Archives de Tocologie*, Nov. 1877) two cases in which a striking and rapid success followed the use of hot baths in secondary puerperal hemorrhage according to the plan recommended by Dr. Tarnier. The first was that of a patient in whom hemorrhage commenced eighteen days after delivery, no abnormal loss having previously occurred. The uterus was enlarged, and could be felt two finger-breadths above the pubes. Although not in amount sufficient to cause serious alarm, the loss, consisting of liquid blood and clots, persisted most obstinately for ten days. Injections of dilute perchloride of iron, and the administration of ergot and hæmostatic mineral waters, proved of little avail. The introduction into the vagina of tampons of charpie soaked in perchloride of iron suspended the loss for twenty-four hours, but it then recurred as persistently as ever. Dr. Tarnier, being called in consultation, recommended the use of hot baths. After the first bath the loss was much diminished; after the second, it was completely suspended. It recurred at the end of thirty-six hours, but was finally arrested by a third bath. The process of involution was rapidly completed, and, at the end of a week, the patient was able to get about.

In the second case the hemorrhage set in twenty-seven days after delivery, when the patient had already been able to walk about her room for twelve days. It was at first slight and intermittent, but afterwards became continuous and profuse. The cervix was soft, and readily admitted the finger; the uterus was as large as at the third month of pregnancy, and was felt considerably above the pubes. She was treated by complete rest in bed, with ergot, cold vaginal injections, and cold enemata, but without result. This continued for six days, large

clots being frequently passed. A hot bath of twenty minutes' duration was then prescribed, the patient very reluctantly consenting to this treatment. After the first bath the hemorrhage entirely stopped. It was renewed the following day, and continued in slight degree for twenty-four hours, but was finally arrested by a second bath.

The author attributes the good effect to the relief of uterine congestion consequent upon the dilatation of cutaneous capillaries produced by the hot baths, the resulting determination of blood to the surface, and diminished vascularity of deep-seated organs The plan of treatment was first taught by M. Salgues, formerly Professor of Clinical Medicine at Dijon, under whom M. Tarnier had studied. The author has found it more efficacious in the second phase of the hemorrhage than at its outset, and he considers it unsafe to resort to it earlier than ten days after delivery. The baths are given at the temperature of about 34° C., and the duration of immersion varies from twenty minutes to half an hour.—*Obstetrical Journal of Great Britain*, March, 1878.

—

Influence of Pregnancy on Suckling.

In reference to a case recently at the Hôpital des Cliniques, Prof. DEPAUL took the opportunity (*Rev. Méd.*, February 18) of strongly impressing upon his class that the continuance of suckling after pregnancy had manifested itself, whatever its effects might be on the mother, acted most injuriously upon her infant. First, the quantity of milk diminishes, and the child, though suckling for a long time, no longer obtains the quantity of nutriment which it requires. Its stomach not feeling satisfied with what it has received, in place of going to sleep after a copious repast, as usual, the child cries and becomes restless. If, in spite of these signs, the mother continues to suckle, more alarming symptoms are produced. Digestion is disturbed, and, after each suckling, in place of some pure milk flowing out of the mouth after the breast is taken away, as may be observed in infants who are quite well, actual vomiting takes place, and a large mass of not yet coagulated milk which the stomach cannot tolerate is rejected. The stools, too, exhibit characteristic modifications, and in place of passing two or three of these in the twenty-four hours, the child now passes several, so as to amount to diarrhœa. In some cases there may be, however, constipation. The discharges are themselves abnormal in their appearance. In place of appearing somewhat thickened, and resembling in colour and consistency a boiled egg, they may be quite fluid, of an appearance just like spinach-water; at other times they are less fluid and brownish; and in other instances, again, both in colour and consistence they exactly resemble glaziers' putty. They are accompanied by a more or less considerable quantity of mucus, according to the amount of intestinal irritation, and there may be present streaks or even true drops of blood. Sometimes the amount of milk does not seem to have materially diminished, for it is not uncommon to find it issuing abundantly on pressure being made. This may give rise to error, as it only proves that the gland performs its function actively; but weighing the infant will show that it derives from this milk an utterly insufficient amount of nutrition. Chemical analysis fails to show us what is the modification which the milk undergoes through pregnancy, rendering it unfit, even when in sufficient quantity, for the nutrition of the child; but that such a modification does take place is beyond all doubt, and is indeed sufficiently shown to exist by the marked repugnance which the infant may exhibit to the breast. Prof. Depaul has met with three or four remarkable examples of this. In one of these he was sent for by a young woman, whose infant, which was quite well, and had up to then been well nourished, had for some time past absolutely

refused to take the breast. Tried in his presence, after having abstained from food for some time, it would not suckle; but no sooner had a nurse who had been sent for made her appearance, than it seized her breast with avidity. On interrogating and examining the mother he became convinced that she had become pregnant. "The conclusion to be drawn from these facts is, that whenever a woman asks you whether, having become pregnant, she ought to continue to suckle her infant, you should reply in the negative and advise her to procure a nurse. For you may be certain that the disturbances of which I have just given you but a very faint sketch, if they have not as yet been produced, will manifest themselves before long, to the great detriment of the child's health."—*Med. Times and Gaz.*, March 2, 1878.

Concerning the Condition of the Hymen and its Remains after Cohabitation, Child-bearing, and Lying-in.

This paper by Prof. C. SCHRŒDER was, with the original drawings, presented to the Obstetrical Society of Edinburgh (*Med. Examiner*, Feb. 28, 1878). The drawings illustrated the condition of the entrance to the vagina, and especially the hymen after cohabitation and child-bearing. The general opinion hitherto is that the hymen is torn by the first coitus, and that the cicatricial retracting remains of it formed the carunculæ myrtiformes. It was also generally believed that the warty excrescences at several places of the vaginal entrance were directly formed by the first coitus. These opinions, however, are not borne out by a careful inspection of the parts. Prof. S. demonstrated in the year 1867 that the carunculæ myrtiformes are first formed in consequence of child-bearing by the subsequent sloughing of parts of the hymen. This fact has been frequently questioned by writers on this subject, being confirmed only by Bidder, in Dorpat. Professor Schrœder, with the help of Dr. Alt, his assistant, had drawings made of the vaginal entrance in a number of pregnant females before and after the birth of the child, so as to show the effect of child-bearing on the vaginal entrance by comparing the two drawings.

Before describing the drawings he described the hymen. He stated that the hymen was formed by a fold of mucous membrane arising from the edge of the vaginal entrance, and surrounding with its free edge the opening leading into the vagina. The hymen was a stretched out membrane in the entrance to the vagina, in which there is an opening, not in the centre, but towards the orifice of the urethra. In front, the rim of the hymen is smaller, but it is not wanting. The opening of the hymen is of very different sizes. As a rule, it is wide enough to admit the passing of the finger into the vagina without injuring the border of the mucous membrane. In exceptional cases the opening is very small, and in some cases is entirely absent. It is much more common, however, for the opening to be so large that the finger passes easily through without injuring the structure. In the drawings submitted, one is astonished to find how frequently the hymen has remained wholly or almost entirely intact. The hymen frequently forms only a small stretchable rim which is raised all round from the edge of the vaginal entrance in an equal but insignificant elevation, and which on the pushing in of the penis yields without tearing. The hymen, therefore, not rarely remains almost unchanged by cohabitation, whilst it is only stretched by often-repeated coitus, or only slightly indented on its free edge through slight tears. Were the opening smaller it would of course be torn, but never to such an extent as to form carunculæ myrtiformes. These latter are thus formed, as can easily be proved by examining the vaginal entrance of sterile married women or of prostitutes, after very frequently repeated coitus. Through the pushing in of the

penis, the free fold of the hymen will at most be torn, so that one, two, or more tears are formed, which sometimes, though not at all regularly, reach the base of the hymen. As a rule, these are only one, two, or three, still they may become much more numerous, and in the most marked cases the hymen is changed into a continuous row of small projecting points. But there is always found a connection between the separate small pieces, however numerous the tears may be. These stand close by one another—there is never a space between them. On account of this condition the entrance to the vagina of persons who have not borne children may be distinguished from that of one who has borne a child. With the latter the vaginal entrance, in consequence of the birth, undergoes great change. By the birth the narrow vaginal entrance suffered a dilatation which, as a rule, is not possible without lesions, when the head cuts out through it. We see, therefore, in the case of primiparæ, as well as of women whose entrance to the vagina was not yet distended by former births, quite regular tears in the mucous membrane. But besides these, the shreds of the hymen suffer considerable bruising. If we examine the vaginal entrance of a primipara immediately after delivery, when the blood has been carefully wiped away, we see the parts of the hymen still completely preserved, but infiltrated with blood, of a swollen appearance, and of a bluish-black colour. A few days later we find in place of separate shreds small ulcers. At the place of these ulcers every trace of the hymen disappears, whilst on the other less bruised places remains of the hymen are preserved. These are the caruncule myrtiformes. The amount of the hymen so preserved is very various, as the drawings show. The conditions above described were well illustrated by a series of beautiful drawings. Each vaginal entrance was twice sketched—once before delivery, and once about ten days after delivery. The drawings of primiparæ clearly demonstrated the difference of the hymen as you find them in deflowered ones and the caruncule myrtiformes. After giving a minute description of each drawing, Professor Schrœder concluded by stating that the drawings showed that the difference between the remains of the hymen in females who have not borne children and such as have borne children are striking to the eye, and consequently the condition of the vaginal entrance is one of the best means of deciding the question whether or not a female has already borne a child.

—

Amputation of the Neck of the Uterus.

In the *Annales de Gynécologie*, January, 1878, there is an article by Dr. A. LEBLOND on amputation of the neck of the uterus. The author points out the anatomical fact that the neck of the uterus consists of two portions—the supravaginal, situated above the insertion of the vagina into the neck of the uterus, and the intravaginal, or portion which projects into the vagina below this point. He then discusses the question, ought the amputation to be performed at the vulva or in the vagina? Dr. Leblond is of opinion that the amputation should be done inside the vagina, as the danger of opening the pouch of the peritoneum, which dips down behind the uterus, is avoided, and the relation of adjacent organs is respected. He prefers the galvano-cautery, especially in malignant disease. In default of the galvanic cautery, the écraseur is the safest instrument. Where the galvano-cautery and écraseur are not admissible, he uses scissors. The knife should only be used in cases of hypertrophic elongation of the intravaginal portion of the cervix. In order to facilitate the application of the noose of platinum-wire round the cervix, Dr. Leblond has designed a bivalve speculum, which fits over the cervix and carries the wire round it. The wire is tightened, and the speculum is withdrawn before the connection with the bichromate of potash current is made.—*London Med. Record*, Feb. 15, 1878.

Gastrotomy in a Case of Irreducible Retroversion of the Uterus.

Dr. KŒBERLE relates (*Gaz. Méd. de Strasbourg*) a case in which irreducible retroversion of the uterus gave rise to intestinal obstruction which could not be overcome, and in which permanent cure, not only of the ileus, but of the retroversion, was effected by gastrotomy. The patient, the Countess B——, twenty-seven years of age, of hysterical temperament, had suffered from obstinate constipation, and had passed nothing for more than four months. At intervals she had fecal vomiting. The breath was fecal, and nausea continual. For seven months she had been confined to her bed, and for two months had been nourished by milk alone. The abdomen was distended, and the left flank filled by stony fecal masses. The rectum was empty, and the uterus completely retroverted, the os looking forward and to the right. The condition was attributed to a fall from a carriage six months previously. All efforts to restore the uterus failed, it being impossible to pass the sound through the internal os uteri. The patient had consulted twenty-five eminent practitioners, and the most various and energetic treatment had remained without effect.

After trying in vain enemata and drastic purgatives, Dr. Kœberlé resolved on operative interference—not on account of the retroversion, but to relieve the obstruction. He resolved, however, also to cure permanently the displacement by excising one ovary, and fixing its pedicle to the abdominal wall, as in ovariotomy. The incision in the abdominal wall was not more than 5 cm. long in its deeper part. The index and middle fingers were introduced, and hooked round the retroverted fundus. This yielded suddenly, not without some force, being impacted by the intestines, full of scybala, which lay above it. The intestines were then kneaded by the fingers, to make the scybala progress towards the rectum. The left ovary was drawn into the angle of the wound, and with the outer part of the Fallopian tube surrounded by an iron-wire ligature, with the aid of a serre-nœud, as in ovariotomy. They were then fixed by a steel-pin, passed above the ligature, and the superfluous portion cut off. Convalescence was rapid, as after a very easy case of ovariotomy. A large quantity of hard scybala were passed spontaneously on the first day, and an enormous quantity after an enema of senna on the third day. The colic and vomiting immediately disappeared, menstruation was afterwards normal, and the patient enjoyed good health for the next four years.

She then again came under observation with vaginismus, constipation, and vesical tenesmus. Profound hysteria had become established, in consequence of a reverse of fortune. She believed her uterus had become again displaced in consequence of a second fall from a carriage, and she was extremely eager to have the whole organ excised. She was much emaciated, spent most of her time reading in bed, with the room much heated, and the bowels acted only about once in three weeks. Dr. Kœberlé found, however, that the uterus remained in a somewhat anteverted position, and the use of the sound showed that it was still firmly attached to the anterior abdominal wall, since it was impossible to turn it into a position of retroversion or retroflexion.—*Obstetrical Journal of Great Britain*, Jan. 1878.

CONTENTS.

Anatomy and Physiology.

Nutritive Influence of the Nervous System. 145
Regeneration of the Retinal Purple outside the Body. By Prof. Kühne and Dr. A. Ewald 147
The Development of the Red Blood-corpuscles. By M. G. Hayem . . . 147

Materia Medica and Therapeutics

Action of Intravenous Injections of Chloral on the Circulation and Respiration. By Dr. Troquart 148
On the Combined Use of Chloroform and Morphia. By Prof. Kœnig . . . 150
The Physiological Action of Glycerine. By M. Catillon 150
On the Therapeutic Action of Thymol. By Dr. Balz 151
On Absorption of Medical Substances by the Vaginal Mucous Membrane. By Dr. E. W. Hamburger 151

Medicine.

Microcythæmia. By M. Hayem . . . 152
Case of Amnesia, with Post-mortem Observation. By Dr. Broadbent . . . 152
Syphiloma of the Pons Varolii; with remarks on Unilateral Cerebral Anæsthesia and Disturbance of the Senses. By Dr. Rosenthal 154
An Analysis of Seventy-five Cases of Writer's Cramp and Impaired Writing Power. By Dr. Vivian Poore . . . 156
Rhythmical Hysterical Chorea. By Prof. Charcot 158
A New Form of Mycosis Œsophagi. By Dr. E. Letzerich 161
Tracheotomy in Tuberculosis of the Larynx. By Dr. Serkowski . . . 161
Bronchiectasis. By Dr. Bardenhewer . 161
Syphilitic Pneumonia. By Dr. Sacharjin 162
The External Use of Tincture of Belladonna in Night-Sweating. By Mr. Nairne . 164
Abnormalities of the Spine, simulating Chest-Disease. By Dr. P. Heymann . 164
The Immigration of Corpuscles in the Lung. By Prof. Nothnagel . . . 165
Aneurism of the Pulmonary Artery. By Dr. Buchwald 167
A Case of Acute Hemorrhage of the Pancreas. By Dr. Hilty 168
Glycerine in Diabetes. By Prof. Bouchardat 169
Treatment of Acne Rosacea. By Prof. von Hebra 170
Two Cases of Psoriasis: the one treated by Prolonged Daily Immersions, the other by Chrysophanic Acid. By Mr. Balmanno Squire 170

Surgery.

Anterior Choroiditis. By M. Coursserant 172
Diseases of the Lachrymal Passages. By Dr. Badal 172
The Influence of the Uterus in Eye-diseases. By Mr. H. R. Swanzy . . . 173
Duplication of the Left Half of the Lower Jaw. By O. Israel 174
On Wounds of the Larynx and their Treatment, especially the Value of a Prophylactic Tracheotomy. By Witte . . 174
Curious Simulation of Fracture of the Larynx. By Dr. Mordillon . . . 175
Gangrene of the Testis. By Prof. Volkmann 176
Aspiration in Effusion into the Knee-Joint. By Dr. Dieulafoy 177
Rupture of the Popliteal Artery and Vein. By Mr. Walter Rivington 178
Spontaneous Aneurism of the Arteria Dorsalis Pedis. By Mr. Adams . . . 182
The Treatment of Varix by the Subcutaneous Injection of Alcohol. By Dr. Englisch 183
Apparatus for Transverse Fractures of the Patella. By Moulard 184

Midwifery and Gynæcology.

Treatment of Obstinate Vomiting during Pregnancy by Dilatation of the Cervix Uteri. By Dr. A. Murillo . . . 184
Note on Two Contrasted Forms of Weak Labour. By Dr. Matthews Duncan . 185
Extra-Uterine Pregnancy treated by Gastrotomy. By Dr. Rousseau . . . 185
Cæsarean Section and Removal of Uterus in a Case of Osteomalacia. By Dr. Späth . 186
Use of Hot Baths in Secondary Puerperal Hemorrhage. By Dr. Bailly . . . 187
Influence of Pregnancy on Suckling. By Prof. Depaul 188
Concerning the Condition of the Hymen and its Remains after Cohabitation, Childbearing, and Lying-in. By Prof. C. Schroeder 189
Amputation of the Neck of the Uterus. By Dr. A. Leblond 190
Gastrotomy in a Case of Irreducible Retroversion of the Uterus. By Dr. Kœberle . 191

Published Monthly, price $2.50 *per annum, free of postage.*

Also, furnished together with the AMERICAN JOURNAL OF THE MEDICAL SCIENCES *and the* MEDICAL NEWS AND LIBRARY *for* SIX DOLLARS *per annum in advance, the whole free of postage.*

HENRY C. LEA, Philadelphia.

Specimen—on thin paper.
OBSTETRICAL JOURNAL OF GREAT BRITAIN AND IRELAND

AMERICAN SUPPLEMENT

TO THE

OBSTETRICAL JOURNAL OF GREAT BRITAIN AND IRELAND,
MARCH, 1878.

Original Communications.

A Clinical Lecture on Some Points in the Diagnosis and Treatment of Uterine Polypi.

By WILLIAM GOODELL, A.M., M.D., Professor of Clinical Gynecology in the University of Pennsylvania, Physician in Charge of the Preston Retreat, etc.

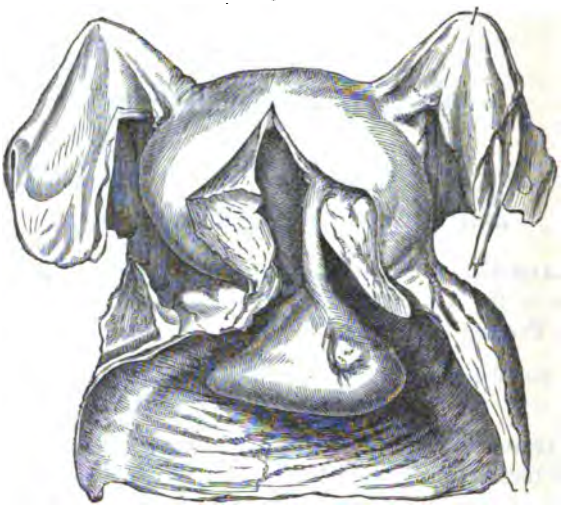
From a lecture delivered February 26, 1878, at the University of Pennsylvania. Reported by F. WOODBURY, M.D.

GENTLEMEN: In the course of our clinical studies this session, we have had before us a number of cases of dysmenorrhea and hemorrhage, in which the symptoms were attributable to uterine polypi. As the details of some of these cases are fresh in your minds, I shall now take the opportunity of grouping them in such a manner as to impress upon you some of the salient and characteristic points in the origin, development, and means of diagnosis between the various forms of this class of growths; and, in conclusion, will refer to appropriate modes of treatment. I need not waste time in reading the clinical histories of these individual cases, but will merely refer to them in passing, while considering the general topics under discussion; and since, in our Dispensary service, you have become familiar with the customary modes of examining cases of uterine disorders, it will not be necessary for me to stop to prescribe the preliminary proceedings in conducting your examinations, except, under special circumstances, to indicate where some unusual procedure is considered expedient or needful.

Taking up the subject of uterine polypus, the first question naturally is—What is a polypus? By a polypus I mean any stalked tumor springing from the inner wall of the womb; and, in character, partaking of the nature of the stroma from which it starts. If from the mucous membrane, it will be myxomatous;

if from the submucous cellular tissue, it will be fibroid; if from the muscular fibres, it will be myomatous; and, if it starts in the glands of Naboth, as retention cysts, it will form the variety known as the glandular polypus, which is by far the most commonly encountered.

Fig. 1.



Fibroid polypus which has been extruded from the cavity of the uterus, the triangular shape of which it retains. (After Barnes on Diseases of Women.)

These different varieties of polypi differ widely in their course, composition, and general characters. The fibrous polypus is dense and hard, springing primarily from the submucous tissues; it gradually, in the course of its development, becomes more and more prominent and projecting, until its base, by traction and constriction, approaches or assumes the form of a pedicle, of greater or of less length. When the tumor springs from the mucous glands, the common variety, you may have little pedicles; these tumors are very small, but they bleed out of all proportion to their size. They are generally found in the cervical canal, and have this peculiarity, that, when you examine with the finger, they will play at bo-peep in and out of the os uteri, or else they are so small as to slip to one side, and may easily escape detection. The best plan is to use, for examining, a bivalve or a duck-bill speculum, not a Fergusson speculum, because the latter will not expand the os or sufficiently expose the surface you wish to examine. By the use of the former speculum

referred to, I have frequently succeeded in discovering these growths that had eluded observation by other means.

What are the symptoms of polypus? The increase in the menses (menorrhagia) is the first symptom, which afterwards is succeeded by metrorrhagia or hemorrhage between the menses. This symptom should always arrest your attention; it shows that there is something wrong with the womb. Bleeding excessively at the menstrual periods, followed by a sanguineous discharge for some length of time, is one of the most constant conditions attending uterine polypus. As the uterus tries to force out this foreign body from its cavity, we have also labor-like pains produced by the contractions of the womb, either on a clot of blood or on the polypus itself. There is also more or less leucorrhea between the periods, and there may be irritability of the bladder with frequent micturition or pains in the bladder and rectum. Retroversion of the womb is very frequent; more rarely there may be anteflexion.

The patient comes complaining of these symptoms, and you will try to find their explanation by a uterine examination. The polypus may be low down in the vagina, having been gradually forced out of the cervical canal by repeated menstrual efforts; or it may hang partly in and partly out of the expanded os like the clapper of a bell, if its pedicle be sufficiently long; or it may be imprisoned within the uterine cavity if its stalk be short. If in the first or second position, it can be easily found by the finger or the speculum. The third, I shall speak of more fully by and by. If the growth has its origin in the cervical glands, the cavity of the womb will not be enlarged. If it lies within the cavity itself, the womb will be larger than usual; the sound may penetrate three and a half inches or more. But it may sometimes give only a normal length, or even less, if it should happen to impinge upon the polypus. Remember this source of fallacy. There is not one diagnostic point that may be relied upon as characteristic, but this fact should always excite your suspicions: If the use of the sound causes an unusual amount of bleeding, not ordinary oozing, but a flow, in some cases resembling the opening of a vein, you are warranted in concluding that there must be a polypus. If after careful search you are unable to find the polypus, do not assume that none exists, but defer your decision until you have had other opportunities of examining. Now, I shall make a suggestion that may enable you to succeed in these cases. If you are puzzled about the diagnosis, wait until the next menstrual period, and examine at this time. As a rule, consideration for your patient's feelings of delicacy should make you avoid an examination at such a

time; but in some cases it is very important. The womb contains more blood, and is larger at this time. The polypus, also congested, becomes a foreign body which the womb tries to extrude. The os uteri consequently expands, and may admit the finger. Some polypi have actually appeared in the vagina during the period, and have afterwards been withdrawn into the uterine cavity, so as to escape detection at a subsequent examination.

As to the cause of polypus, it is evidently due to an increased constructive energy in the womb, for these are hyperplastic growths similar to the polypi in the nose. Any cause that will produce and sustain irritation of the mucous membrane is competent to create these tumors. What is the most frequent cause of nasal polypus? Catarrh of the Schneiderian membrane. In the same manner a similar condition in the womb, a catarrh of its lining membrane, will produce a like result. Sterility and single life are pre-eminent factors in the production of these tumors. My experience is that you will find them to be more frequently the cause than any other factor. But why should they produce this? you will ask. Because the irritation of menstruation continues without any break. Nature never intended that the monthly congestion should go on indefinitely, but she expects such interruptions to it as gestation and lactation usually bring. Another cause, closely related to the preceding, is conjugal onanism, which excites and irritates without satisfying. Under such circumstances, the uterus becomes congested; and, by constant repetition of the cause, it increases in size, and uterine disorder of one kind or another is soon developed; and, as before observed, this presents the condition favorable for the development of polypi. With regard to imperfect sexual relations, let me refer to the case of a lady who recently came to my office. She suffered from severe uterine hemorrhages, and I found on examination that she had two cervical polypi, which I removed. There were also a large number of fungoid growths in the cavity, quite the largest in size that I have ever seen. She was married to a man twenty-five years older than herself. In other words, he was at a time of life when his sexual powers were failing, while she was at a period when her own were vigorous and exacting. His embraces were at long intervals, and so imperfect that they irritated and inflamed her passions without satisfying or allaying them. This was, to my mind, as well as to hers, the explanation of the chronic uterine congestion, the origin of the cervical polypi, and the cause of the fungoid degeneration of the endometrium.

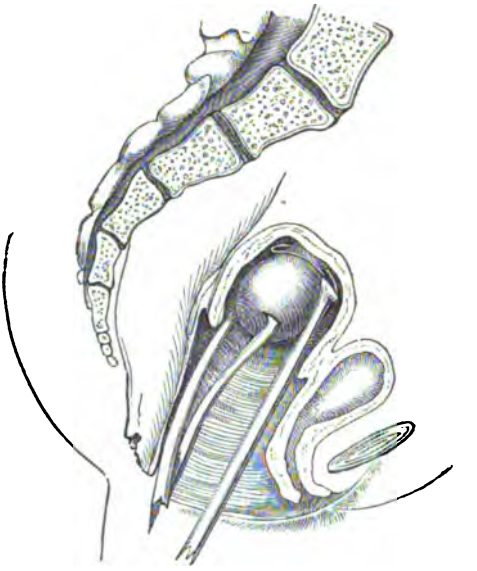
We now come to the important point of cure. Having dis-

covered these small tumors on the inner surface of the womb, you pass in your curette and gently scrape them away from the mucous membrane. But let me say that the curette has disappointed me in discovering larger growths which may at the same time exist. A lady, whose case now occurs to me, applied to me for relief from hemorrhages, from which she had suffered a long time, and, indeed, for which she had been under medical treatment for four years. I found a large uterus, whose cavity measured three inches, and a condition which I recognized as sub-involution. I scraped the uterine cavity, and removed a great number of fungous granulations, but could not find any polypus. I was rash enough to tell her that her trouble was removed, but, unfortunately, the next month she was just as bad as ever. I now examined her again, and at the first sitting I passed in as many sponge tents as could be crowded into the os. The next day, on removing the tents, I found a small polypus, which I twisted off. And I would highly recommend this procedure to you in such cases, for rapid dilatation is far safer than slow dilatation. Introduce, therefore, as many tents as you can on the first day, and on the next, if the cervix be not sufficiently expanded or you discover a large polypus, pack in as many more as you think necessary. In this way you may pass in as many as five, six, nine, or even more, at one time, with but little danger. But if you use one at a time for a number of days, you may light up a peritonitis from the prolonged irritation. This I have known to happen a number of times; but never have I seen any bad results follow rapid dilatation, except in one case, where it was clearly attributable to hospitalism; the woman, however, ultimately recovered. My advice, then, would be, as soon as you can find a polypus to remove it with as few instalments of tents as possible.

In the case of a polypus in the vagina the question is, how shall we remove it? We must use a wire snare and écraseur. It is not necessary to remove the entire length of the pedicle, as the stump will shrivel up after the tumor is amputated. The mode of operating is simple. You grasp the tumor with the volsellum forceps, pass the wire around its base, and crush it off by means of the écraseur, as you have seen me do twice during the present month. If the tumors are small and spring from the cervical glands, you should seize them with the fenestrated forceps and twist them off. Fenestrated forceps are necessary for this, as they slip from the grasp of an ordinary dressing forceps. Subsequently you may find it necessary to cauterize with nitric acid or with a red-hot knitting-needle, for sometimes, although very small, the stump bleeds freely.

When the growths are in the cavity of the womb, you will have far more difficulty. I remember a case in my early practice in which I failed completely in my attempts to remove a polypus from this situation. But I have never been foiled since I adopted the following modification of the plan of Dr. Kidd, of Dublin. Placing the patient in a recumbent position, upon her back, we are ready to proceed with the operation. You will require the services of two assistants, who should preferably be physicians. The hand of one assistant is placed in the hypogastric region, and some pressure is made in order to bring down the pelvic organs and make them more accessible. You then catch the anterior lip of the uterus with the volsellum forceps, and having pulled down that organ entrust the handles to the other assistant. Then seize hold of the tumor with another volsellum forceps, and, having grasped it firmly, remove the former pair. Now let the same gentleman hold this second

Fig. 2.

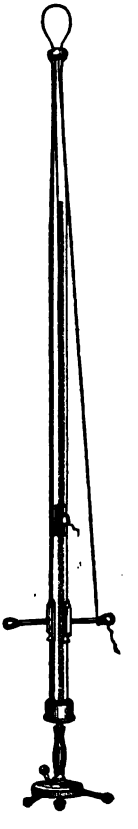


Operation for removing polypus uteri by wire écraseur.—The polypus is seized by the second volsellum and noosed by the wire loop. (After Barnes on Diseases of Women.)

volsellum, while you slip the wire over its handles and up over the equator of the tumor. The books say pass in your wire loop first. I have found a better plan. Bend the loop back

and let the tip of the écraseur enter the womb first, push it up as far as it will go, and then coax up the loop with your fingers while your assistant slowly tightens it. Here comes in a serious danger, however. By the traction of the volsellum the assistant has partially cupped the womb like the bottom of a bottle, and if you go on tightening the wire the écraseur will cut off a slice of the womb, and may even make an opening into the peritoneal cavity. This may be readily avoided by a little foresight. Having the wire around the base of the growth, relax the traction on the forceps, and push firmly upward with the écraseur. By this means you will be sure to reduce the inversion and restore the womb to its natural convexity, and the remainder of the operation may now be performed with safety.

Fig. 3.



A few words about the wire to be used will not come amiss. From long experience, having first used ordinary annealed wire for this purpose, which often annoyed me by snapping at the critical moment, I have finally been led to use exclusively piano-forte wire for the écraseur. For years I have used nothing else than this excellent steel wire made for the high notes of the piano. You will need wire as strong as you can get it, for you will be astonished at the resistance it meets in cutting through the structure of a fibroid polypus. Here is another point. You notice on this écraseur we have a travelling button. If I fasten both ends of my wire to this, the loop will come home rapidly, tearing its way through the tissues and crushing them in its passage. But this makes the wire liable to snap in dense structures like a cancerous cervix or a fibroid polypus with a thick stalk. But if you fasten one end of the wire to the travelling button and the other to the fixed handle of the instrument, as I now show you (Fig. 3), you will get a half cutting and a half crushing movement, which will diminish the resistance and make the wire less liable to give way. Hence, in dense structures, my custom is almost invariably to fasten one end of the wire to the travelling button and the other end to the handle, as I have described. The only objections to this adjustment are the slowness of the movement, and the fact that the button will sometimes come home before the stalk has been wholly cut through.

Usually growths of this kind are discovered while small, but

they may be as large as a child's head, and so distend the vagina as to need incisions in the perineum before they can be delivered. You will apply your volsellum, or even the obstetric forceps, in such a case, and, grasping the tumor, bring it down low enough for you to reach the pedicle. No single plan will answer for these cases, but the tumor must be got away by hook or by crook. To illustrate this, let me advert to a case to which I was called many years ago to assist a friend in the removal of a large polypus filling up the whole vagina. The écraseur was not known in those days. We were at a loss to know how to proceed, but remembering that Dupuytren had used the scissors for the ablation of these growths with impunity, we cut away as much as we could by this means at our first visit. We then waited a week and again attacked the tumor, which had descended, in the same way. At the third visit we reached the pedicle, and finally removed the whole growth without alarming hemorrhage. Your duty will then be to pull down the growth, as I have described, and get at the pedicle if you can. If you cannot reach it, remove the tumor in fragments at one sitting, and do not wait as my friend and I did. For sloughing of the wounded portion will take place, and the woman will be exposed to the dangers of septic absorption.

The tumors which we have been considering do not return after removal; others may appear subsequently, but there is no recurrence of a growth of this kind after it has been once removed. But let me now briefly advert to a class of polypi which do return after removal, and which for this reason are sometimes called recurrent fibroid. They are fortunately rare, for I have seen but four cases. From their clinical history, and from their histological characteristics, they do not belong to the benign growths we have been considering, but occupy a middle place between them and cancerous tumors. They are really a diffused sarcoma. Under the microscope they exhibit either the ordinary round cell, or the spindle, or giant cell, the first being the most frequent. They are always sure to return. On examining the vagina, you will find a friable, placenta-like mass crowding down through the os, which so constringes that portion in its grasp as to make it appear like a pedicle. Misled by this, you will, perhaps, think, as I have thought, that you are dealing with an ordinary polypus, and be led to give a favorable prognosis. Some years ago a woman came to my office with just such a growth. To my surprise I found that it readily broke down under traction. It was friable, while the polypus which it resembled is dense and resisting. I found also the

whole inner surface of the womb covered with this same structure, feeling very much like placental tissue. At that time nothing had been written on this subject, and I was wholly at sea. The patient afterwards returned with renewed growths, which were repeatedly removed. In spite of caustic applications they always came back, and the woman finally died. These cases always have a bloody and fetid discharge, which contains solid particles, and which the woman compares to "meat washings." In examining such a tumor, the diagnostic points will be a bad odor, friability, the absence of a capsule, an hour-glass constriction of the portion grasped by the os uteri, and especially its recurrence.

In the remaining brief moments of my last hour with you, I purpose to consider in a few words some special points in the treatment of polypus. Suppose a woman is pregnant, and comes to your office with one dangling in the vagina, should you remove it or not? My advice is, during the early months of gestation, to let it alone. Even if it be only a small one on the cervix, not larger than a pea, do not touch it, and more especially if it be large. The irritation following its removal may lead to miscarriage. Wait for four months to elapse, when the vulnerability of the pregnant womb will be less, and then you may remove it with comparative safety. You must always remove them, because their presence may interfere with labor, or they may slough from injury received during labor. For the same reasons, if a polypus be first discovered during labor, put on the écraseur and remove it at once, before the child is born. But if after labor is over you discover a polypus within the uterine cavity, it is not easy to lay down an inflexible rule of procedure. I once lost a patient six weeks after labor, from the breaking down of such a tumor, and I should therefore prefer to attempt its immediate removal, if the operation promised to be an easy one; but this is as yet a moot point. There is yet another point which I shall illustrate in this way: A married lady comes to you with a history of dysmenorrhea and of sterility, which has lasted some ten or twelve years. She finds that the dysmenorrhea has gone on increasing, and she lately has suffered from menorrhagia, and has had to go to bed at the time of her monthlies. In such a case the first thing is to insist upon a thorough examination, and to jump to no conclusions arrived at by a mere digital exploration. For although, as I have told you in my lectures on dysmenorrhea and on sterility, these symptoms generally point to a flexion of the womb, yet this is not always the case. For instance, in a case of this kind, I

found that the patient had been for two years under the care of several practitioners, who had never made an intra-uterine examination. I first made a digital examination, and found a retroversion rather than the flexion which I had expected to find. The womb was not much displaced, but sufficiently so to give rise to some of the symptoms. The sound went in without difficulty, and I therefore attributed the dysmenorrhea to periodic thickening of the mucous membrane brought about by a long continued leucorrhea, and reinforced by the congestion at the menstrual periods. I scarified the surface with the bistoury, without relief. I enlarged the canal with the hysterotome, but no improvement was apparent. And only after dilating with sponge tents did I discover the cause, for on removing them the next day I found entangled in their meshes a beautiful fibrous polypus, as perfect in its form as an ear-drop. Acting like a ball-valve in the cervical canal, it had caused the dysmenorrhea by impeding the discharge of the menstrual fluid, and the sterility by preventing the seminal fluid from entering the womb.

Thus you see that these little cervical tumors or the retention cysts of the glands of Naboth may escape careful exploration, and you must sometimes make a diagnosis by exclusion. To confirm your suspicion you should take a sponge tent as large as you can and crowd it into the os. A laminaria tent will not answer, as it has no meshes. If you choose you can previously stretch open the os with a dilator. In removing the sponge the next day, you may be rewarded by finding, entangled in its meshes, some small polypus or some fungous growths. Therefore, when such cases present themselves to your notice, carefully examine the sponge tent after you have withdrawn it; otherwise, you will be at a loss to explain the sudden improvement of your patient. On the other hand, I have twice seen an intra-uterine polypus of some size broken off from its attachment by the use of a fagot of tents, and left behind loose after their withdrawal. In each case my surprise was great to find it come away without any traction.

In conclusion, whenever you discover a polypus, remove it in the best way you can, either whole or piecemeal, but remove it, if possible, by one operation, and not by repeated ones.

Monthly Summary.

MIDWIFERY.

Case of Induction of Premature Labor for Pelvic Deformity. By W. L. Richardson, M.D., Boston, Mass. M. P., a colored girl, twenty-two years of age, entered the Boston Lying-in Hospital on May 12th to await confinement. When five years of age she was struck upon the back by a falling window-sash, and soon after a "lump" appeared at the seat of injury. From that time until the age of eleven she became more and more hunchbacked. Her spine presented the usual curvature of a hunchback, the antero-posterior curve being particularly prominent, while there was also some lateral inclination to the left. Suspicions of a deformed pelvis being excited, an examination was made under ether, the sensitiveness of the patient rendering the administration of an anesthetic necessary. The antero-posterior diameter of the pelvis was found to be much shortened, the distance from the symphysis to the promontory of the sacrum being roughly estimated at two and three-fourths inches.

The patient being seven and a half months advanced in pregnancy, the induction of premature labor was considered advisable. Accordingly, on May 14th, the patient was etherized by Mr. W. O. Moseley, the house physician, and a careful examination was made by Drs. Minot and Reynolds and myself, and the following measurements were taken by means of Baudelocque's calipers:—

PELVIS: EXTERNAL MEASUREMENTS.

Antero-posterior diameter	6	inches.
Antero-superior iliac spines	8.625	inches.
Central points of iliac crests	10.25	inches.

INTERNAL MEASUREMENTS.

Inlet. Antero-posterior	2.75	inches.
Outlet. Antero-posterior (from sacro-coccygeal joint)	4.50	inches.
Transverse	4.25	inches.

The coccyx was very movable, and the arch of the pubes widely spreading.

The induction of premature labor being unanimously advised, and the bladder having been previously evacuated, a full-sized elastic male catheter, thirteen and one-half inches long, was passed without the stylet between the membranes and the walls of the uterus at the posterior part and along the median line, the membranes being unruptured. The catheter was retained in place by introducing a stylet for about three inches, and curving the remainder of the wire up over the abdomen as a point of support, the whole being fastened by a piece of tape, the centre of which

was tied round the mouth of the catheter, one end passing over the pubes and through the ring of the stylet, and the other passing backwards over the sacrum, both ends being subsequently secured to a waist bandage.

The catheter was introduced at 11.05 A. M., and at 2.15 P. M. labor-pains set in, recurring at intervals of about fifteen minutes through the afternoon. At 9 P. M. the pains were of moderate severity, principally in the back, and occurring once in ten minutes. Catheter still in place. Cervix wholly taken up. Os about the size of a cent, admitting finger; soft and dilatable. Head of child resting on superior strait. Pulse 100. The fetal heart was heard two inches to the left of the umbilicus, 164. Urine drawn with the catheter.

At 9.30 P. M., the labor progressing favorably, the catheter was withdrawn, and soon after the pains became more frequent, occurring once in five minutes, and continuing so through the night.

At 2 A. M., on the morning of the 15th, three fifteen-grain doses of hydrate of chloral were given at intervals of twenty minutes, without much effect, however, upon the patient. The os at this time, although quite soft, was but slightly dilated. At 5.50 A. M., after two severe pains, the patient was attacked with profuse flowing, and the os was found two-thirds dilated, with a tense bag of membranes protruding, on rupturing which the hemorrhage immediately ceased. The head now descended rapidly to the perineum, and was seen presenting at the vulva within half an hour after the escape of the liquor amnii.

Several pains having failed to accomplish expulsion, and the pulse being 160, it was decided to apply the forceps, and thus terminate the labor. Ether being administered, the blades were therefore introduced, and the slightest traction was sufficient to supply the slight lack of rotation which existed, and the child was expelled almost without effort at 6.55 A. M. The child was a male, weighing three pounds, and was at once wrapped in cotton-wool and kept warm, but despite the precautions usually adopted in such cases, it died in about seventeen hours.

An examination of the head gave the following measurements:—

Bi-parietal	3.125 inches.
Occipito-frontal	3.875 inches.
Occipito-mental	4.75 inches.
Length of fetus	18.50 inches.

By slight compression the bi-parietal diameter measured two and three-fourths inches.

The uterus for some time showed a tendency to relax, but finally remained firmly contracted. The patient recovered well from the ether, and soon fell asleep.

During the next few days considerable abdominal pain was complained of, requiring the administration of morphia for its relief. The lochia were scanty, but not offensive. There was no milk.

On the 20th all abdominal pain had ceased, but a profuse diarrhea set in, the lochia became offensive, and the mind somewhat wandering. Pulse 132. Temperature 102°. Quinine, two grains every four hours, was administered. Synovitis also appeared in the left knee, causing stiffness and pain. From the 22d, however, she commenced improving steadily, the mind becoming clear, and the bowels regular. On the 24th the quinine was diminished to two grains three times a day, owing to the appearance of slight symptoms of cinchonism. The temperature and pulse were uniformly high from the first, the former ranging from 100.6° to 105.2°, and the latter from 124 to 152. On the 28th, she was transferred, convalescent, to the Massachusetts General Hospital, to be treated for the synovitis, from which she soon recovered, and was discharged June 30th, well.—*The Boston Med. and Surg. Journ.*, Jan. 31, 1878.

DISEASES OF WOMEN.

Vicarious Menstruation.—At a recent meeting of the New York Academy of Medicine Dr. Salvatore Caro read a brief paper upon the above subject, and gave the history of a case in which the hemorrhage occurred from the gums. The patient was twenty-three years of age; began to menstruate at the age of sixteen; had an attack of intermittent fever in September; menses disappeared, but did not return when the malarial fever was arrested. She soon began to suffer from toothache, which was accompanied by some hemorrhage from the gums. Relief not being obtained, in July following she had the tooth extracted at the time it was giving her great discomfort; blood came freely from the cavity, and the bleeding resisted all means, such as plugging etc., for its arrest, but finally ceased. In August bleeding from the gum returned; application was made to a dentist for relief; none was obtained, but the bleeding again ceased at the end of four days. In September the bleeding from the gum returned; she applied to a physician; no special relief was obtained, but hemorrhage again ceased at the expiration of four days. In October the patient came under Dr. Caro's care. It was regarded as a case of vicarious menstruation, and the patient was placed under the following plan of treatment:—

She belonged to a religious order that imposed protracted and severe religious duties; it was advised to abstain from all these;

to take plenty of good food; to wash the mouth daily, for about ten days prior to the time for the occurrence of the hemorrhage from the gum, with tincture of myrrh and water; to take thirty drops of the fluid extract of ergot every four hours; and to apply mustard drafts to the popliteal region.

In October she bled a little from the gum and soiled one napkin. The treatment was repeated in November, but not with as favorable results, for no blood was discharged from the uterus, and the bleeding from the gum was more profuse than formerly.

In December the mouth-wash and mustard revulsives were repeated, and ten-drop doses of the tincture of iodine given in Spanish saffron tea; menstruation returned, without hemorrhage from the mouth, and lasted five days. In January the patient menstruated normally; duration, four days. In February the menstrual function was performed in a normal manner; her health seemed perfect; duration of discharge four days.

Dr. Isaac E. Taylor remarked that Dr. Caro's case was important as illustrating the effect produced in the female economy by malaria. Malaria exerted a powerful influence not only with regard to amenorrhea, but also with regard to metrorrhagia, affections of the kidneys, stomach, intestines, etc. etc. Hence, the disturbances of the nervous system and the development of neuralgia, toothache, gastralgia, etc. The effect produced upon the system by malaria during pregnancy was much more marked than under other circumstances. Within the past year he had seen six cases of gastralgia dependent upon malaria, and all occurred in pregnant women. Now, when menstruation ceased because of the action of malaria in the system, as it seemed to in the case reported by Dr. Caro, hemorrhage might occur at any point where the bloodvessels were in a weakened condition, whether it was in the mouth, upon the arm, or upon the top of the head. Dr. Taylor referred to one case in which the vicarious hemorrhage occurred from a patch upon the arm; also to another in which it occurred from a broken surface upon the top of the head. Mention was also made of a case in which hematemesis was substituted for menstruation. The uterus was measured and found to be 3½ inches in depth. A sound, having a large end, was introduced a few times prior to the time for the occurrence of menstruation; the uterus was increased in size to a little over four inches, owing to the normal ductility of the organ; menstruation came on, and then the uterus was very much reduced in size; a process of involution, as it were, was accomplished. At the end of two months the menstrual flow was fully established. If that plan of treatment was adopted, the sound must be used with the greatest gentleness and care.

LIST OF ORIGINAL COMMUNICATIONS,

APPEARING IN VOL. V. OF

THE OBSTETRICAL JOURNAL OF GREAT BRITAIN AND IRELAND.

PAGE

Influence of Posture on Women. By J. H. Aveling, M.D. . . 1, 633
On Incision of the Cervix Uteri. By Heywood Smith, M.A., M.D. . 31
On the Treatment of Ruptures of the Perineum. By Thomas Chambers, F.R.C.P., F.R.C.S. Edin. 34
On the Bearings of Chronic Disease of the Heart upon Pregnancy and Parturition. By Angus Macdonald, M.D., F.R.C.P.E., F.R.C.S.E. 73, 145, 217, 289, 353, 417, 489
On the Treatment of Perineal Rupture (Reply to Dr. Chambers). By G. G. Bantock, M.D., F.R.C.S. Edin. 94
Peri-uterine Hematocele and Pelvic Cellulitis Contrasted. By Dr. Graily Hewitt. Narrative by S. H. Burton, M.B., B.Sc. Lond. . . 99
Notes on a Case of Retained Menstrual Discharge. By A. E. Aust Lawrence, M.D. 108
On Kolpokleisis and other Allied Procedures, as a Means of Treating Vesico-Vaginal Fistulæ. By N. Bozeman, M.D. . . . 170, 233, 309
Puerperal Eclampsia (with Notes of a Case). By Thomas Oliver, M.B. . 242
Dr. Roper's New Craniotomy Forceps 249
On the Treatment of Chronic Inflammation and Simple Ulceration of the Os and Cervix Uteri. By Percy Boulton, M.D. 319
On Morphia as a Parturifacient. By Arthur Wiglesworth, L.R.C.P. . 368
The Treatment of Post-partum Hemorrhage. By H. Otis Hyatt, M.D. . 383
Correlation of the Psychological and Physiological Forces. By E. H. Trenholme, M.D. 439
On a Form of Infantile Pyrexia associated with Disordered Bowels. By J. Aikman, M.D. 447
On the Mechanism of Labor. By W. Stephenson, M.D., F.R.C.S.E., 518, 588, 649, 777
On the Use of Chloroform in "Stammering of the Uterus" during Labor. By David P. James, M.R.C.S.E. 524
The Effects of Frequent and Early Use of Midwifery Forceps upon the Fetal and Maternal Mortality. By A. L. Galabin, M.A., M.D. . . 561
Additional Cases illustrating the Changes which occur Periodically in the Mucous Membrane of the Uterus. By John Williams, M.D. . . 593
On the Management of the Nipples. By Samuel Sloan, M.D. . . 653
A Case of Puerperal Eclampsia. By Arthur Wiglesworth, L.R.C.P. . 669
Note on Two Contrasted Forms of Weak Labor. By J. Matthews Duncan, M.D. 705
Infantile Paralysis, the Clinical History of Cases with Rigid, and those with Flaccid Muscles. By William Adams, F.R.C.S. 710
Difficulty in Diagnosis due to Rotation of Ovarian Tumors. By J. Knowsley Thornton, M.B. 720
The Pulse-Rate considered in Relation to Post-partum Hemorrhage. By J. Ashburton Thompson, M.D. 785
Résumé of the Treatment of Fibroids of the Uterus, particularly in their Early Stages. By G. de Gorrequer Griffith, L.R.C.P. . . . 800

AMERICAN SUPPLEMENT.

Clinical Records. By Professor J. Lewis Smith, M.D. 1, 17
Spontaneous Reduction of Inverted Uterus. By L. C. Stephens, M.D. . 49
Rupture of Funis during Rapid Labor. By Edwin Farnham, M.D. . 50
Labor Complicated by an Elongated and Indurated Cervix Uteri. By A. H. Cage, M.D. 51
A Clinical Lecture on some Points in the Diagnosis and Treatment of Uterine Polypi. By William Goodell, A.M., M.D. 177

Abstracts of the PROCEEDINGS OF THE LONDON, EDINBURGH, AND DUBLIN OBSTETRICAL SOCIETIES *which have appeared in Vol. V. of the Obstetrical Journal of Great Britain and Ireland.*

	PAGE
Specimens of Placentæ, with abnormal arrangement of the bloodvessels	41
The Forceps in Modern Midwifery	42
Five Cases of Complete Inversion of the Uterus, with Remarks on the Operation for Chronic Inversion	48
Specimen of Supernumerary Mammæ	114
Dr. Bozeman's Instruments for the Treatment of Vesico-vaginal Fistulæ and Atresia Vaginæ when complicating that condition	114
Report on Dr. Palfrey's specimen of a Two-headed Monster	115
On Fibroid Tumors complicating Delivery	116
Specimen of a "Siren Fetus"	120
Specimen of a "Celosome Fetus"	120
On some of the Relations of the Fetal Head to Rupture of the Perineum and Injuries of the External Genital Organs	120
Specimen of a very large Myxomatous Tumor	128
Notes on Diphtheria	128, 407
Epithelioma of Cervix Uteri—Operation	136
Apparatus for Exhibiting Uterine Injections after Delivery	191
A Pessary for Complete Procidentia Uteri	191
Ascites combined with Distension of the Bladder in a Fetus	192
On a New Mode of Treating Certain Cases of Retroflexion of the Unimpregnated Uterus	192
Syphilitic and other Tumors of the Labia and Clitoris	199
An Instrument for Application of Perchloride of Iron to the Cavity of the Uterus	250
A Flexible Galvanic Intra-uterine Stem Pessary	250
A New Form of Craniotomy Forceps	250
Specimens of Ferguson's Speculum of Toughened Glass	250
The Pathology and Treatment of Membranous Dysmenorrhea	251
A difficult Case of Labor in a Primiparous Woman, who, having been Barren for thirteen years, became Pregnant after division of a deformed Cervix Uteri	256
Specimens illustrating friability of the Umbilical Cord, and the so-called torsion of the Cord	257
A specimen of a peculiar Hydrorachis in a Fetus	258
Specimen of a remarkable Encephaloid Fetus	258
On the Therapeutic Action of the Secale Cornutum	259
Case of Triplets complicated with Puerperal Convulsions after Delivery	263
A peculiar form of Vaginal Hernia	265
Note of a Case of Painless Second Stage of Labor in a Primipara	265
On the Condition of the Cervix Uteri in the Latter Months of Utero-Gestation; with a specimen	268
Specimen of a Uterus in the cavity of which suppuration had occurred from Occlusion of the Cervix from Cancer commencing near the Internal Os	324
Specimen of the Viscera from a Case in which Cæsarian Section was performed	325
Specimen of Elephantiasis of the Vulva	326
Additional Cases of Ovariotomy performed during Pregnancy	326
Notes on a Case of Extra-uterine Fetation	333
Erysipelatous Metritis	343
Specimen of a "Fetus Papyraceus"	387
Specimen of a Fetus with Intra-uterine Peritonitis, and dilatation of bladder, uterus, and kidneys	387
Cases of Puerperal Pleuro-pneumonia	387
Notes on a Case of Hemiplegia in a Child following the application of the Forceps at Birth	401
Cases of Disease of the Uterus in connection with the Use of Alcoholic Stimulants	403
Note on the Use of the Stethoscope in Obstetrics	473
Note of a Case of Extra-uterine Pregnancy	476, 678
Case of Patent Foramen Ovale occurring in Live Birth	476
Notes of a Case of an Anencephalous Fetus born Co-twin with a Healthy Child	476
Notes on a Case of Labor complicated with Emphysema	477
Case of Spontaneous Version after the rupture of the Membranes in a Primipara	478
A Synopsis of 1500 Consecutive Labors	540
The Forceps in certain Breech Presentations	544
Specimen of a Hand-spray for injecting perchloride of iron into the Uterus	546
Specimen of Phosphatic Calculus from the Female Bladder	546
Specimen of Oxalate of Lime Calculus from Female Bladder	546
On Transfusion in Post-partum Hemorrhage	546
Dr. Tarnier's New Forceps	603, 817
Dr. Galabin's New Forceps	605
Drs. Budin and Pinard's Obstetric Phantom	606
On a Diagnostic Sign of Vaginal Hemorrhage during Parturition	607
On the Choice of the Leg which should be Seized in Version for Presentation of the Upper Extremity	608
Amputation of the Uterus in a Case of Chronic Inversion caused by a Fibrous Tumor	611
Cases of Polypus Uteri	618
On the Treatment of Puerperal Convulsions	620
Case of Secondary Puerperal Hemorrhage	674
Case of General Dropsy in the Fetus with Hypertrophy of the Placenta	675
Case of Complete Rupture of the Perineum	676
Case of Meningocele complicating Labor	678
Case of Double Vagina and Uterus	678
Cases of Removal of Large Uterine Myomata by Abdominal Section	679
Description of an Acardiac Fetus	681
Cases of Partial Placenta Prævia	686
Cases of Procedentia Uteri	687
Remarks on Fibrous Tumors of the Uterus	691
Specimen of a Ruptured Uterus	733
Specimen of a Uterus into which perchloride of iron had been injected	733
President's Annual Address to London Obstetrical Society	736
A preparation illustrative of Diseased Kidneys of the Fetus	746
Case of Vicarious Menstruation	747
The Systematic Prevention of "After Pains"	747
On the Resuscitation of Still-born Children	749
Case of Labor Impeded by Enlargement of the Fetal Kidneys	753
Case of Labor complicated by Prolapse of the Leg	755
On the Nature and Mechanism of Spontaneous Rupture of the Uterus in its Cervical Portion	756
Specimens of General Cancer of the body of the Uterus, not affecting the Cervix	810
Specimen of Eversion of the Intestine through the Umbilicus of an Infant	814
Report of the University Lying-in Hospital, Montreal	814
Report of the Rotunda Hospital for Year ending 5th November, 1876	818

THE MONTHLY ABSTRACT

OF

MEDICAL SCIENCE.

VOL. V. NO. 5. **For List of Contents see last page.** MAY, 1878.

Anatomy and Physiology.

The Physiology of the Centrum Ovale and Internal Capsule.

MM. FRANCK and PITRES have communicated to the Société de Biologie in Paris the results of certain experimental investigations undertaken by them with the view of testing the conclusion arrived at by pathological study, that the white fibres which start from the excitable regions of the convolutions and connect them with the central parts of the brain, are grouped in distinct bundles, which preserve their functional independence throughout their course in the white matter. For numerous pathological observations have demonstrated that lesions of the white matter may give rise to paralysis limited to certain groups of muscles which could not be explained unless the fibres from the cortical motor centres were grouped in distinct bundles. In these experiments, MM. Franck and Pitres have proceeded by removing successive horizontal slices of the hemisphere, and by exciting the different parts of the cut surface after each mutilation. In this way they were able to obtain isolated movements similar to those resulting from stimulation of the centres of gray matter. Even in the internal capsule and at the base of the corona radiata the fibres maintain their independence, and by stimulation movements may be produced limited to certain groups of muscles on the opposite side of the body. In order to succeed in this, the points of the electrodes must not be separated more than from two to four millimetres. In the dog it is only the anterior half of the surface of section of the internal capsule which is excitable, and the fibres group themselves as follows:—

1. Quite in front are the fibres which determine the movements of the face and eyelids on the opposite side.

2. Next, behind the last, are the fibres going to the anterior limb of the opposite side.

3. A bundle whose excitation caused movements in both limbs of the opposite side.

4. A very small bundle for the posterior extremity only.

5. At the level of the posterior part of the nucleus caudatus is a bundle whose excitation causes elevation of the ear on the opposite side.

These experiences, therefore, amply confirm the data of pathology so far as the centrum ovale is concerned. At first sight they might appear to contradict our well-established opinion that injuries of the internal capsule cause total hemiplegia; but it must be remembered that, in order to produce these limited results, the electrodes had to be closely approximated; now the immense number of the pathological alterations are coarse lesions, hemorrhages, or softenings; such limited lesions as would fairly correspond to the three experiments must be exceedingly rare. On the other hand, these experiments afford a satisfactory explanation of many obscure facts. We know that a patient who has been attacked by hemiplegia recovers the use of his leg while his arm remains quite useless,

or the arm may quite recover while the leg is permanently contracted, or the face may be the part in which the affection first disappears or remains for life. These phenomena are fully explained by the different degree to which certain fibres are affected. The analysis of some cases in M. Charcot's wards serves to indicate that paralysis predominates in the upper extremity when the lesion is most marked on the anterior part of the capsule, and in the lower extremity when the lesion is seated on the posterior part of the motor portion of the capsule. —*London Med. Record*, Feb. 15, 1878.

The Condition of the Urine in Sucklings.

The following are the conclusions drawn by CRUSE, in a long and valuable paper on this subject in the *Jahrbuch für Kinderheilkunde* (Band xi., Heft 4):—

1. The absolute quantity of the urine increases from the second to the tenth day quickly; from the tenth to the sixtieth day, slowly.

2. On the contrary, the specific gravity and the percentage of important constituents diminish up to about the tenth day rapidly; after that, scarcely perceptibly. Phosphoric acid is an exception, for it increases with age.

3. The quantity of urine, and of its more important constituents, compared with the body-weight, increases rapidly from the second to the fifth or tenth day. It then remains at about the highest point reached until the sixtieth day. Chloride of sodium is an exception, for it diminishes after the tenth day.

4. Between the fifth and tenth days the urine is mostly turbid, often dark, and its reaction generally acid. After the tenth day it is always clear, and its colour straw-yellow, with usually a neutral reaction.

5. Albumen is frequently present up to the tenth day, but never afterwards.

6. The quality of the urine commonly varies a good deal between the second and tenth days; after this it is more constant.

7. Besides age, the secretion is influenced by body-weight. The absolute quantity for twenty-four hours is in direct ratio, the quantity pro kilogramme is in indirect ratio to the body-weight. On the contrary, both the absolute and the relative quantity of urea and of sodium-chloride are in direct ratio to the body-weight. The specific gravity of the urine and (in the first ten days) the colouring matter are increased with increasing weight.

8. Compared with the secretion of adults, the quantity in proportion to body-weight secreted in twenty-four hours is three and a half or four times greater; while the quantity of the more important urinary constituents, reckoned in the same way, is one and a half to three and a half times less. Of these, the secretion of urea in sucklings is least diminished; that of phosphoric acid most so.—*London Med. Record*, March 15, 1878.

Materia Medica and Therapeutics.

The Action of Lactic Acid.

The discovery of the hypnotic action of chloral, founded as it was upon a chemical study of its decomposition, has led to the attempt to discover other sedatives by *a priori* reasoning. Since lactic acid is a product of muscular action, and muscular action has a sedative effect, it seemed to Preyer probable that lactic acid might be the substance on which this effect of muscular action depended, and that it

might prove, in sufficient doses, a valuable sedative. Its use has been said to have been in a few cases successful, but in a much larger number of cases it has failed. All question of its value should be set at rest by the results of some researches by Dr. A. Auerbach, of Berlin, who concludes, from a series of careful observations, in which altogether sixty doses were given, that it has no influence whatever. The patients in whom the observations were made were inmates of a lunatic asylum, and care was taken to administer the acid to those who were unused to sedatives as well as those who used hypnotics habitually. It was given both during the daytime and at night, every collateral condition likely to promote sleep, a quiet darkened room being employed when it was given in the daytime. The dose administered varied from 10 to 35 grammes of lactic acid, and 20 to 40 grammes of lactate of soda. In not a single instance could any distinct sedative influence be traced. In one-third of the cases serious intestinal inconveniences were occasioned.—*Lancet*, March 16, 1878.

—

The Physiological Action of Chlorhydrate of Pilocarpine.

Dr. Demetrius Keriea has made a series of experiments on chlorhydrate of pilocarpine in M. Constantin Paul's wards. The experiments have demonstrated to him (*Thèse de Paris*, 31st May, 1877, No. 27) the following facts: 1. Used as a subcutaneous injection, chlorhydrate of pilocarpine, in doses of two centigrammes (0.3 grain) and upwards, produces the same physiological effects as jaborandi, of which it is the alkaloid. 2. In much smaller doses, pilocarpine acts also by only inducing diaphoresis, which in certain cases has been replaced by diarrhœa. So soon as doses of from one to two centigrammes are attained, salivation always comes on, but below that dose it is generally absent, and perspiration alone occurs even with doses of two and a half milligrammes (0.04 grain) of chlorhydrate of pilocarpine. Dr. Keriea likewise calls attention, in addition to his own experiments, to those already on pilocarpine by Sidney Ringer, Curschmann, Weber, Bardenhewer, Rosenkrantz, and Scotti.—*Lond. Med. Record*, March 15, 1878.

—

The Physiological and Therapeutic Action of Cinchonidine.

Dr. Ferdinand Coletti recalls to remembrance the reasons which have induced experimenters to seek substitutes for the sulphate of quinine, and also the writings relating to the properties of these substances. He then reports a somewhat considerable number of experiments made on his pupils, on himself, and on animals. Fifteen pupils, his assistant, and the writer himself, took for several days 30 to 60 centigrammes (4½ to 9 grains) of sulphate of cinchonidine procured from Messrs. Gehe, of Dresden, and prepared by Messrs. Howard, of London. They made no change in their usual work nor in their way of living. There was no alteration in the temperature or pulse; no head symptoms; only a little headache in two instances. In three cases, there was increase of salivation, without the bitter taste in the mouth usually caused by quinine. There were no gastric troubles; on the contrary, the appetite was increased. The eupeptic action pointed out by Moutard-Martin, Howard, and Rabuteau, is therefore confirmed by these experiments. Afterwards, repeating Laborde and Dupuis' experiments with reference to the epileptogenous properties of sulphate of quinine, quinidine, and cinchonidine, but employing cinchonidine only, M. Coletti obtained convulsive phenomena when clonic, tonic, and tetaniform spasms alternated, but without having the aspect of epileptiform attacks. This substance, administered hypodermically in doses of from forty to sixty centigrammes, subsequently brought on death in four cases out of six. Sulphate of cinchonidine, employed in twenty-four

cases of intermittent and symptomatic fever, always had the effect of preventing the attack of the first, and of moderating the temperature or the frequency of the pulse in the second.

The following is a very interesting fact. One of the bitches under experiment was with pup; it aborted an hour and a half after the injection. This fact helps to confirm the opinion of Monteverdi, relative to the ecbolic action of quinine.—*Lond. Med. Record*, March 15, 1878.

—

The Excretion of Mercury.

E. W. HAMBURGER (*Prager Med. Wochenschrift*, Nos. 4 and 5, 1877, and *Centralblatt für die Medicin Wissenschaften*, July 28) found that the urine contained mercury regularly during the use of inunctions of mercurial ointment, while the milk contained none. When mercury was administered by suppository, the urine and milk both gave evidence of the presence of the drug. He used the electrolytic method of Schneider, after satisfying himself, by experiments, of its usefulness.—*London Med. Record*, March 15, 1878.

—

The Hypodermic Injection of Chloroform.

M. E. BESNIER has performed hypodermic injections of chloroform with advantage, and without any unpleasant consequences. Some of his colleagues have not been so fortunate, and have an unfavourable opinion of this method. M. DUJARDIN-BEAUMETZ (*Journal de Thérapeutique*, January 25, 1878), though following M. Besnier's instructions in every particular, has often seen superficial sloughing of the skin follow the injection; and when there was no sloughing, he has noticed considerable induration, which disappeared very slowly. The benefit obtained is not very great. Doubtless the pain is relieved, but only at the spot where the injection is made. Thus a patient suffering from tic-douloureux in the face is not relieved by an injection of chloroform in the forearm. There are no general sedative effects, even when a drachm of the drug is used. Similar observations have been made by M. Moutard-Martin, who has seen the eschar occur at some distance from the point of injection rather than at the site of the puncture itself; by M. Edouard Labbé, who says that the injection of chloroform causes pain; by M. Constantin Paul, who has found that the sedative effects do not appear until sometimes two or three hours after injection. It would, therefore, appear that subcutaneous injection of chloroform may be attended with considerable disadvantages, and that it cannot be substituted for injection of morphia in ordinary practice. The latter remains the best means of assuaging pain. Doubtless it sometimes produces some trifling constitutional disturbance, but, as it was justly remarked by some members of the Société de Thérapeutique, these undesirable effects may be very much restricted by associating the morphia with atropia.—*London Med. Record*, March 15, 1878.

—

Hypodermic Injections of Digitaline.

Dr. GUBLER announced at the meeting of the Paris *Société de Thérapeutique*, on Feb. 13, that, after having made numerous attempts to utilize the active principles of digitalis, he had attained his object. He uses a solution of Homolle and Quevenne's amorphous digitaline, in a mixture of equal parts of water and alcohol; one gramme of which solution contains two milligrammes of digitaline. He injects half a syringeful, that is to say, one milligramme of digitaline, and notes all the effects of digitalis. These injections do not produce any local accidents.—*London Med. Record*, March 15, 1878.

Medicine.

The Use of Salicylate of Soda in the Febrile Diseases of Children.

In an article in the *Correspondenz-Blatt für Schweizer Aerzte*, No. 15, 1877 (*Allgemeine Medicin. Central-Zeitung*, October 10), Dr. HAGENBACH gives the results of the use of salicylate of soda in a large number of cases in the Children's Hospital at Basle. The following quantities have been generally divided into two portions, and given with an interval between them of half an hour or an hour; for children under one year, 15 grains; when between one year and two years, from 22 to 30 grains; for those between three and five years, from 37 to 45 grains; when between six and ten years, from 52 grains to a drachm; when between eleven and fifteen years, from one drachm to 82 grains. The best hour for its administration is five o'clock in the evening. It is seldom given more than once in the twenty-four hours, and when possible it should be taken on an empty stomach. When sweetened with syrup of cinnamon or with liquorice, it is taken much more willingly than quinine; its action, however, is uncertain. Sometimes large doses do not produce the desired results, while in other cases small doses act too powerfully. In diseases attended with continued fever, the first doses appear to produce more decided remissions than the subsequent ones, causing a reduction in temperature from 1.5° to 4° cent. (2.7 to 7.2 Fahr.), as a rule, within three hours after it has been taken. The greatest remission occurs after six hours. With the fall of temperature, there was regularly a diminished frequency of the pulse and of respiration. Unpleasant secondary effects are sometimes produced. Not rarely the medicine is vomited, but if the vomiting do not take place until from one quarter to one half hour after its administration, there often ensues a complete remission notwithstanding. The second dose, given half an hour later, is often retained. Diarrhœa is sometimes produced by its use; it is, however, very transient, and does not leave behind it any serious disturbances of digestion. When there is restlessness, as shown by an anxious countenance, talkativeness, etc., this passes off with the appearance of the remission, and a quiet sleep follows the breaking out of perspiration. Symptoms of collapse are extremely rare. Marked ringing of the ears or deafness never takes place.

Whereas in the treatment of febrile diseases in children, Dr. Hagenbach previously made frequent use of baths, wrapping in wet sheets, and of ice-bladders, in addition to the energetic employment of quinine, it is not now uncommon for weeks to elapse without a single bath being given for the purpose of reducing the temperature. In the severe forms of scarlet fever or of typhoid fever, baths are still resorted to, but in the lighter forms salicylate of soda is always used instead. It is only now and then that, on account of nausea and repeated vomiting, it is found necessary to abandon its use and to resort to quinine.—*London Med. Record*, March 15, 1878.

The Treatment of Variola by Painting with Iodized Glycerine.

Dr. PIOCH (*Lyon Médical*, May 21, 1877) recommends the following treatment which he has successfully practised in an epidemic of smallpox which broke out in a monastic institution under his care. During the first three days, if there be delirium, Dr. Pioch administers quinine and musk. When the eruption is well out and delirium ceases, during the three following days the musk and cinchona are discontinued. Slightly sudorific drinks and slops are given. Towards the end of the seventh day, when the fever, which had subsided, returns under

the influence of the maturing of the pustules, Dr. Pioch has the whole surface of the body, commencing with the feet and finishing with the face, painted with a brush dipped in a mixture of three parts of glycerine and one of iodine. At the end of the fourth day of suppuration, the twelfth day of the disorder, when the fever diminishes, the inunction is discontinued and the cure is patiently awaited. Dr. Pioch has had nine bad cases of variola under his care, of which the first, which was not treated with the iodized inunctions, died. The eight other patients, of whom seven had confluent smallpox, went on well to the last stage and were cured in the usual time.—*London Med. Record*, March 15, 1878.

—

The Treatment of Zona by Topical Applications of Perchloride of Iron.

Dr. AMEDEE MERCIER speaks highly of the good effects of the method first recommended by Dr. Baudon (*Bull. de Thérapeutique*, tome lxiii.), and which was put into practice at the St. Louis Hospital by Dr. Laillier. It consists in painting the zona twice daily with a mixture of 30 grammes of perchloride of iron of the codex, and 10 grammes of alcohol. M. Mercier (*Thèse de Paris*, March 2, p. 7) has arrived at the conclusions that the treatment of zona by topical applications of perchloride of iron gives unvarying results, and that the alcoholic solution should be used in preference to any other.—*London Med. Record*, March 15, 1878.

—

The Treatment of Diphtheria by the Balsams.

Dr. TROLONG DU RUMAIN has noted, in M. Jules Simon's wards at the Children's Hospital in Paris, the results obtained in the treatment of diphtheria by balsams. The method of Prideau (of Andouillé) has yielded satisfactory results to M. Jules Simon, who thus formulates the treatment. The following medicine should be taken in the course of twenty-four hours: 1. Copaiba, 15 centigrammes; cubebs, 30 centigrammes; subcarbonate of iron, 4 grammes; calcined magnesia, sufficient to solidify the mass. 2. Todd's quinine draught. 3. Coffee, rum, Bordeaux wine. 4. The little patients should be fed up as much as possible. M. Trolong du Rumain, in his *Thèse de Paris*, May, 1877, No. 204, gives the following conclusions: 1. Diphtheria does well with cubebs and copaiba when the child is more than four years old; when it is younger, it is not easy to administer these drugs. 2. It is not asserted that the balsams are a specific for diphtheria, as mercury is a specific for secondary syphilis. 3. Cauterization is of no use if it be superficial, and if it be strong it may bring on disastrous results, inasmuch as they increase the already great debility of the patient. Tonic treatment should infallibly be employed.—*London Med. Record*, March 15, 1878.

—

Carbolated Camphor in Diphtheria.

M. SOULEZ employs carbolated camphor in the treatment of diphtheria; the false membrane seems to lose its inherent vitality, and no inflammatory effects follow. M. Soulez dissolves camphor in crystallized carbolic acid, which has itself been dissolved in a very small quantity of alcohol—nine grammes of carbolic acid to one gramme of alcohol. He uses it either alone, or mixed with an equal weight of oil of sweet almonds.—*British Med. Journal*, March 16, 1878.

—

Reversed Writing in Brain-Disease.

In the *Berliner Klinische Wochenschrift* for January 7, Dr. BUCHWALD reports three cases illustrative of mirror-writing (Spiegelschrift), and makes several observations on the subject.

While much attention has recently been paid to the symptoms of aphasia in cases of hemiplegia, very little notice has been taken of the various degrees of agraphia, which are often also present. The latter are important, because it frequently happens that when the power of speech is quite lost, a true estimate of the mental condition of the patient can only be formed by means of his writing, and even when the power of speech is partially retained valuable information may still be derived from his written language. Mirror-writing, that is to say, from right to left, which only corresponds to ordinary writing when seen in a mirror, must frequently be observed in patients suffering from right hemiplegia, but, as far as the author is aware, has nowhere been put upon record.

The first case was observed two years ago. A workman, aged 45, had had an ordinary apoplectic attack, which left him with right hemiplegia; a mixed form of aphasia was present; his right hand was useless for the purpose of writing, and when asked to write with the left he wrote his name uncommonly well from right to left in mirror-writing; figures from 1 to 7 were written in the same way. When his attention was drawn to the fact of his writing being reversed, he could not for some time be induced to write from left to right; when, however, his name and some figures properly written were put before him as a copy, he managed to imitate some of them, though not nearly so well as he had written in the reverse direction; he was also continually going back to his mirror-writing. He eventually succeeded in writing the figures 1, 2, 4, 6, 8, 9, correctly, but 3, 5, and 7 were always reversed. If small sums in multiplication, correctly written, were given him to do, he constantly put the result down in mirror-writing. No disturbances of vision were present, but alexia was so in a high degree. After six months' treatment at the Klinik at Breslau the aphasia, agraphia, and alexia had gradually improved, but the tendency to reverse writing still remained; it was still a great effort to the patient to copy writing from left to right; he thought it impossible to write any other way than from right to left with the left hand. If he assisted his right hand, which had now regained some power, with his left, he wrote some things correctly and others not. The figure 5 was most difficult to him; even with the right hand he always wrote it reversed or partially so. The patient was removed to a workhouse, and the same symptoms with regard to his spoken and written language persist, except that, having gained a little more power in the right hand, he is able to write rather more correctly with the help of his left.

The second case was that of a woman, the widow of a mason. In consequence of aortic and mitral insufficiency, she had an attack of cerebral embolism; right hemiplegia and a high degree of mixed aphasia were the result. When called upon to write with the left hand, it appeared at first that she was producing meaningless scribble, but it was afterwards found that the few first letters of her name could be easily made out in mirror-writing.

The third patient was under the care of Dr. Berger. He was a fruiterer, aged 39, who had cerebral embolism following aortic disease. The right hemiplegia and aphasia have almost disappeared; the patient, who shows no disturbance of intellect, writes his name, figures, etc., as far as his agraphia permits him, with the left hand, in reversed characters; with the right he writes correctly. This patient also said that he could not write any other way than from right to left with the left hand; his tendency to reversed writing lasted many months, and was exhibited at a meeting of a medical society.

How far is this symptom constant in right hemiplegia, how is it to be explained, and of what practical value is it?

On looking over the records of the Klinik, the author found that no tendency to mirror-writing had existed in cases where the paralysis and aphasia had been

of slight degree, nor when they had been of short duration, as in syphilitic disease.

A considerable number of healthy persons of various ages and degrees of education were caused to write their names, figures, and other words with their left hands; the following was the result. Most of the children said at first that it was impossible to write with the left hand at all, while the greater number of the adults, especially the most intelligent and observant, wrote, or tried to write correctly from left to right. A large number, especially children, wrote, apparently unconsciously, mirror-writing with the left hand as well and as easily as ordinary writing with the right. When the reversed appearance of the writing was pointed out to them they were at first astonished, and then said that was the only possible way of writing with the left hand; on being induced, however, to try to write from left to right with the left hand, they were successful in doing so, but the ordinary writing was not nearly so good as the reversed. One little girl, aged 11, who very slowly and with great care had succeeded in writing her name correctly but very badly with the left hand, was asked to write it quickly, and at once wrote it in mirror-writing much better than she had previously done it from left to right, although she had never practised reversed writing.

There is, therefore, in a great number of persons, especially children, a tendency to make, in writing with the left hand, movements analogous to those made in ordinary writing by the right hand, and consequently to produce reversed writing; this latter is very easy to many, whereas the contrary movements are performed with difficulty. The same difficulty is observed in beginners learning to play the piano. This tendency to making analogous movements with the two hands can, both in writing and piano-playing, be overcome by care and practice.

In the case of paralyzed patients, the degree of intelligence, and the power of concentrating the attention play an important part. Berger observed no single case of reversed writing among patients belonging to the upper classes. If the paralytic attack be slight or of short duration, the tendency to reversed writing does not come on, at any rate not as a result of disease. When the patient's general condition and his affection of speech, etc., improve, his powers of observation become greater or are more easily awakened, and he is able to overcome the tendency, especially if it was not present in any great degree before the attack; this latter point can, however, seldom be ascertained. The physician is thus enabled, in cases of right hemiplegia, by means of the patient's written language, to obtain valuable information as to the condition of the psychic functions; he will also find that complete agraphia is not always present, although the apparently illegible writings of the patient may have led to that belief. Mirror-writing in these cases takes the place of ordinary writing; and the examination of it has a certain practical value.—*London Med. Record*, March 15, 1878.

The Telegraphic Writers' Cramp.

In March, 1875, M. Onimus read a paper to the Société de Biologie (*Monthly Abstract of Medical Sciences*, June, 1875, page 249), in which he called attention to a form of functional spasm observed in telegraph *employés*, and which they themselves have named the *mal télégraphique*. We have never understood that this form of spasm has been met with among telegraphic writers in this country; but M. Onimus, in another communication read at a recent meeting of the Biological Society (*Gaz. des Hôp.* and *Gaz. Hebdom.*, March 16) states that he has had many additional opportunities of observing such cases. It is chiefly observed in those engaged in the manipulation of Morse's machine, and seems to arise from the difficulty of co-ordinating the motions which are required alternately for the formation of the dots and the dashes. Much depends upon individual tempera-

ment and the condition of the nervous system, as the existence of more or less irritability seems quite as necessary for the production of this cramp as the frequent repetition of the same movements. Some *employés* who are naturally nervous and excitable have the cramp after only a short time of service, their general health suffering at the same time. The same circumstances operate in writers' cramp, this especially occurring when a great number of letters or dispatches have to be executed in a given time under a state of feverish activity. The direction of the movements also exerts an influence. An *employé* successively employed the thumb, the index, and the median finger, each of these manipulating during two or three months, but one after the other then being seized with the cramp. He then used his wrist, which after a while also refused service. As the expeditionary dispatches are manipulated by a movement of the entire hand as well as of the fingers from above downwards, when these vertical movements had become difficult an *employé* contrived a means of acting on the lever in a horizontal direction by means of a thread stretched from a point of support to the lever. For a while he was able to forward his dispatches, but these new movements soon became embarrassed, and gave rise to the cramps. It seems that an *employé* of a medium skilfulness transmits or receives alternately about 7000 signals in an hour, making for the day of seven hours a total of about 49,000 signals. Under penalty of causing the receiver of the dispatch to commit an error, the movements of the manipulator must be cadenced with perfect regularity. The transmission has also to be marked by periods of arrest of a conventional duration, being longer between each word than between each letter of the same word, and than between each signal of the same letter. "Taking, for example, my name," says Dr. Onimus, "a simple difference of the period of arrest may cause it to be read Otéimus, Otomus, Obmus, Onittus, and Oteittus. According to the calculation of a very skilful *employé* who has communicated these details to me, the mere defective transmission of the 'é' may cause the garbling (*tronquer*) of the word *réjévé* in 447 different manners. Besides the muscular contraction, the transmission occasions consequently at the same time great fatigue from the constant mental tension which it exacts."

The symptoms of the affection are more easily and more rapidly produced in women. The general symptoms consist principally in palpitations, vertigo, sleeplessness, perhaps impairment of vision (most of the older and laborious *employés* wearing spectacles), and a sense of constriction opposite the nape of the neck, seeming to hold the back part of the head in a vice. This sensation is not uncommon in men of business rendered ill or over-excited in important transactions in commerce, and it is especially met with when attempts are made to force intellectual functions that are already fatigued. To a state of over-excitement succeeds one of depression and melancholy, and moral and physical atony. Memory becomes bad, and according to some, insanity may in the course of some years supervene on this pathological condition. During the progress of this pathological state the transmission of dispatches presents some curious peculiarities, dependent on reflex movements produced by habit and in an unconscious manner. The hand does not always obey the determinations of the will; a word badly read is often correctly transmitted. On the other hand, an *employé* whose mode of transmission is naturally slow is not always, when dozing, interrupted in transmitting to the correspondent the ideas accompanying his half-dreamy state. for he continues to act on the lever and expedite his dispatches. In some cases there exists, too, a state of things quite the opposite of spasm and rigidity, for the hand proceeds more rapidly than the will, and performs a series of movements which are co-ordinated and decipherable, but too rapid. It is especially after the manipulation has lasted for some time that these phenomena may be produced.

Normally, it is only after an hour of work that the manipulation attains its maximum of rapidity.—*Med. Times and Gaz.*, March 23, 1878.

An Early Symptom of Tabes Dorsalis.[1]

In the year 1871, Professor C. WESTPHAL first observed that muscular contractions could be caused by striking certain tendons. Since then he has paid considerable attention to this phenomenon in the most various nervous diseases. In tabes dorsalis the ligamentum patellæ appeared to be of most interest. If this ligament be struck in a healthy man, while the knee is flexed at a right angle, or nearly so, a sudden contraction of the extensor muscles on the front of the thigh may always be felt. If the leg be hanging loose, a sudden extension of the leg is seen as a result of this contraction. This reaction, named by Dr. Westphal "knee phenomenon," or "leg phenomenon," can be produced in any healthy person. It is entirely absent, however, as the author has previously shown, in cases of tabes dorsalis, in which the well-known symptoms of ataxia and disturbances of sensation, with or without affections of the cerebral nerves, are fully developed, and in which gray degeneration of the posterior columns of the cord can be certainly diagnosed. This observation has been confirmed by Professor Erb and Dr. O. Berger.

The question to which the author addresses himself in the present paper is, whether the knee-phenomenon is not already absent before the characteristic symptoms of tabes dorsalis are developed; also whether this absence may not therefore in some cases afford material aid in forming an otherwise difficult or impossible diagnosis. The diagnosis of tabes, in its earlier stages, is as difficult as it is easy in its later developments. According to Westphal's recent observations, the absence of the knee-phenomenon in the earlier stages of tabes is a diagnostic point of great value.

Many cases of tabes begin with severe pains of certain definite character (shooting, lancinating, etc.) in the lower limbs. These pains have been regarded by many, especially French authors, as quite characteristic. But it is difficult for patients, especially the uneducated, to describe their pains accurately. The pains, moreover, are not always of the kind described, but sometimes closely resemble rheumatic pains. True neuralgic pains in the lower limbs, quite similar to those occurring in tabes, are not at all uncommon; they occur periodically, first at long and then at shorter intervals, last many years, and, apart from other symptoms, are not to be distinguished from the eccentric pains of commencing tabes.

In a number of such cases, in which the pains in the lower limbs were the only symptoms of disease, Westphal has found the knee-phenomenon to be entirely absent, and has therefore diagnosed tabes dorsalis. One case was especially interesting, owing to the phenomenon being absent upon one side only. A woman, aged 36, suffered from shooting pains in both lower extremities, but those in the left were incomparably worse than those in the right. Hyperæsthesia of the skin was also present in the left limb. During many months the knee-phenomenon was completely absent on the left side, but it could always be unmistakably though not strongly produced on the right side. The patient's gait was unaffected, except by the pain during a paroxysm, and her muscular sense appeared normal. Still there was no doubt as to the diagnosis, for there was already advanced white atrophy of the optic nerves, inequality of the pupils, and frequent micturition. This case is an example of the failing of the knee-phenomenon in

[1] Berliner Klinische Wochenschrift, January 8, 1877.

an unmistakable case of tabes dorsalis, before the development of ataxia or any degree of failure of sensation.

Westphal considers the diagnosis of commencing tabes justifiable in any case, in which the characteristic pains in the lower limbs are present and the knee-phenomenon is absent. The converse, however, is not so certain; the presence of the knee-phenomenon in a case presenting the peculiar pains in the lower extremities would not justify the conclusion that these were not of a tabic nature. But if the pains had lasted many years, and the knee-phenomenon could still be produced, it would at least be very unlikely that tabes was present.

Sufficient evidence is not yet at the author's disposal for him to state what diagnostic value is to be ascribed to the presence or absence of the knee-phenomenon in cases of tabes, which commence with affections of certain cerebral nerves —*e. g.*, the optic nerves or the nerves supplying the muscles of the eyeball. One case having reference to this point is, however, related. A gentleman, aged 40, had first diplopia, and then a disturbance of sensation in the fingers, first of the right and then of the left hand. The knee-phenomenon could not be produced after many and careful trials; no other motor or sensory affection was present; the patient was certainly not syphilitic. Westphal thinks it very probable that this was a case of commencing tabes, but cannot speak with certainty. The unusual appearance of the sensory symptoms first in the upper extremities, in no wise contradicts this supposition, as it does sometimes occur in tabes. Still more interesting is the question whether the absence of the knee-phenomenon in a case of white atrophy of the optic nerve would justify the diagnosis of commencing tabes, because white atrophy so frequently occurs as an independent disease. Ophthalmic surgeons are the only persons who have sufficient opportunities for making observations numerous enough to solve this question.

It happens sometimes that ataxia of the lower limbs is present, and yet that the knee-phenomenon can be produced. It may be taken as certain that, in these cases, gray degeneration of the entire length of the posterior columns is not present, or, at any rate, that it does not extend into the lumbar region. This condition often occurs after acute febrile diseases, and its course is quite different from that of tabes dorsalis.

The symptom in question seems to be of the greatest value in certain cases of hypochondria, which are difficult to distinguish from some forms of commencing tabes. There are cases of tabes in which the peculiar pains are, from the first, absent, or in which their place is taken by vague sensations, difficult to describe, such as feelings of weight, creeping, cold, or as if parts of the body were dead or asleep. All these are similar to the complaints of hypochondriacs. Some tabic patients will describe a feeling of constriction round the waist, or a sensation of sinking in the abdomen in just the same way as a hypochondriac. A weakness of the bladder and diminished sexual power are also not uncommon in hypochondria. The difficulty of the case is increased by the fact that well-marked cases of tabes are not unfrequently complicated with hypochondriasis. If, in a case presenting the above symptoms, the knee-phenomenon cannot be produced after careful trial, tabes dorsalis may be safely diagnosed.

It is thus seen that the absence of the knee-phenomenon is a valuable early symptom of tabes. It is more useful than Romberg's test as to the ability to stand still with closed eyes, in that the latter is not developed until the later stages of the disease, when the diminution of sensation in the lower limbs is usually evident. It must be remembered, however, that it is, after all, only one symptom, and its significance must be estimated in conjunction with others, for there are motor affections of the lower limbs (*e. g.*, certain spinal paralyses, with

loss of faradic excitability of the muscles) in which the knee-phenomenon cannot be produced, although gray degeneration of the posterior columns would certainly not be diagnosed.

The value of this symptom would be greatly diminished if it could be shown that in some persons, with the patella, etc., normally placed, the knee-phenomenon could not be produced in health. Such individual peculiarities may exist, but the author has never met with one among large numbers of healthy persons whom he has examined. A percussion-hammer is the best instrument with which to strike the ligamentum patellæ. In some cases only circumscribed portions of the ligament are sensitive enough to cause the reaction. In doubtful cases the knee should be bared, and should be struck very carefully and as elastically as possible. It is also necessary to see that the patient does not keep his extensor muscles voluntarily contracted.

A hope is expressed by the author that the earlier diagnosis of this afterwards well-nigh incurable disease may possibly lead to a more effective treatment of it. —*London Med. Record*, March 15, 1878.

—

The Treatment of Chronic Throat-Catarrh with Nitrate of Silver.

Dr. DAWOSKY lays down the proposition (*Betz's Memorabilien*, vol. xxii. part 12) that in the treatment of diseases of mucous membranes, where external applications are possible, nitrate of silver is a remedy useful before all others. Brought into contact with a mucous surface, it coagulates the mucus; and if applied in excess, it unites chemically with the tissue of the membrane beneath, forming a more or less thick crust. If the nitrate be applied to an actively secreting mucous membrane, it first irritates the distended bloodvessels and capillaries, and also stimulates their contractility, so that they unload themselves and cause an onward flow of the blood accumulated in them. Hence it becomes necessary to the efficient use of nitrate of silver to form an accurate estimate of the quantity to be applied in each case, and also that it should be applied by the physician himself. In chronic throat-catarrh, we have a congested condition of the mucous membrane, and a consequent abundant secretion, with swelling and redness occurring in unequally distributed patches. If these patches become denuded of epithelium, they appear yet more deeply reddened. In such cases, the nitrate should not be applied otherwise than in a solution of definite strength. It is convenient to have a concentrated solution, which may then be diluted with water or glycerine. After applying it with a brush to the affected parts, these should be painted over with a solution of glycerine, and the application is repeated so long as there is any swelling, unhealthy secretion, etc. At the same time, the food and drink taken should be cold, and smoking discontinued. Should the larynx be also affected, it should be brushed with the caustic solution, of a strength of 1 to 8, repeated three or four times a day. A large number of cases of laryngeal catarrh thus treated, have uniformly yielded the best results.—*London Med. Record*, March 15, 1878.

—

Hysterical Paralysis of the Vocal Cords.

Professor GERHARDT has recently published a brief paper on "Hysterical Paralysis of the Vocal Cords," or, as it is generally termed, functional aphonia. During a term of five years twenty cases of this affection presented themselves at his Clinique. Of these, fourteen were between 15 and 25 years of age, and six ranged from 25 to 40 years. The majority of these patients were in poor health, having suffered previously from chlorosis, articular rheumatism, and throat affections of different kinds. In several of the cases aphonia was developed in patients

who were suffering from other diseases, and it is supposed that the imitative habit so strongly marked in some forms of hysteria was the predisposing cause. The peculiar feature of hysterical aphonia, and which at the same time determines its cerebral origin, is that the voice retains its normal character during the performance of certain functions. Two of Professor Gerhardt's were able to sing a song in a loud, melodious voice, but they could only articulate the text in a whisper. The fact that a clear resonant cough is coupled with an aphonic voice is also a characteristic of the disease, and serves to differentiate it from ulceration of the cords, multiple papillomata, and paralysis of the cords from pressure upon the pneumogastrics. In hysterical aphonia a peculiar disturbance of the sensibility of the larynx and pharynx is often observed. This generally manifests itself in an intense anæsthesia of the upper respiratory passages, although hyperæsthesia is also occasionally noticed. At the same time the reaction upon electrical irritation is generally unimpaired, although there are some cases in which the application of even very strong currents of electricity does not succeed in producing muscular contractions. Professor Gerhardt does not endorse the opinion, sometimes advanced, that hysterical patients do not wish to speak loud for fear of pain and inconvenience, and disproves this assertion by the assertion that, (1) The paralysis of the cords is generally more marked on one side than on the other; (2) Other symptoms of paralysis of the pneumogastrics are also noticed. Among them may be mentioned the increased frequency of the pulse-beats, unaccompanied by a corresponding rise in the temperature. Of the twenty cases spoken of by Professor Gerhardt, three are still under treatment. Of the others, four were discharged as incurable. One of these had her voice restored for a few hours every time that she indulged in a hearty fit of laughter. Of the fourteen cases cured, one was relieved by the simple introduction of the laryngeal mirror, two by percutaneous galvanization, the others by faradization alone or alternating with Dr. Oliver's plan of compression of the larynx, or by the use of the galvanic current. All of these cases go to prove that recent attacks are speedily cured by the application of faradism, while older cases, and especially those which have frequently relapsed, rarely regain their voice permanently even after the persistent use of the faradic current. The author thinks that some cases of so-called hysterical aphonia may be classed as reflex paralysis, as stated by Phillipaux and Bresgen, who say that aphonia, coincident with hypertrophy of the tonsils, can only be relieved after the removal of the enlarged glands.—*Medical Examiner*, April 4, 1878.

—

Abscess of the Lung.

In a paper read before the Berlin Medical Society (*Allgem. Medicin. Central-Zeitung*, Nov. 7, 1877) Dr. LEYDEN calls attention to the rarity of pulmonary abscess, and to the liability of its being confounded with pulmonary gangrene and subacute tuberculosis of the lungs (cheesy pneumonia). Traube has referred to the diagnostic importance of an examination of the sputum, and states that in it microscopic shreds of lung-tissue might be recognized, containing elastic fibres, black pigment, and occasional rust-coloured crystals. In gangrene, however, the shreds of pulmonary tissue are readily torn, and elastic tissue is not present, and in pulmonary tuberculosis there are no shreds. It was Traube's view that the abscess developed from pneumonia was preceded by an extensive destruction of tissue. Leyden admits that pulmonary abscess and gangrene are not sharply defined, but run into each other, and yet the recognition of the simple healthy suppuration is of the greatest importance. He considers that there are three varieties of pulmonary abscess:—

1. Abscesses perforating the air-passage from without.

2. True pulmonary abscesses which include those due to pneumonia; also the embolic and metastatic forms, and those resulting from injury to the lung, and from the penetration of foreign bodies.

3. Chronic pulmonary abscesses, such as form in chronic pneumonia, but distinct from the tuberculous cavity.

True pulmonary abscess begins with symptoms of acute pneumonia. This does not terminate critically on the seventh or ninth day, but the fever increases, the expectoration is retained, till, in the course of three weeks, an abundant purulent sputum appears, with alleviation of all the symptoms. This sputum is of very great diagnostic importance. It is profuse, frothy, purulent, and liquid, of a stale indifferent odour, although the latter may temporarily be sweet and penetrating. Shreds of lung-tissue are seen, as well as others to be seen with the microscope. They are imbedded in thick yellow pus, are of a grayish-black or yellow-ochre colour, and vary much in size. These particles contain abundant elastic tissue, at times portions of large vessels, a moderate quantity of black pigment, crystals of fat (small, pedicellate, globular forms), delicate hæmatoidine (bilirubine) crystals of an ochre-yellow or rust colour. The latter crystals were always observed, though they might be few or many, and were in the form of rhombic plates or of bundles of needles. Coarse granular micrococci are present, either motionless or moving slowly, and differ widely from the active rod-like bacteria of pulmonary gangrene. They are not acted upon by iodine, and thus differ from the leptothrix forms in gangrene. Pus corpuscles and pulmonary epithelium are also found.

In the chronic pulmonary abscess, the sputa are purulent or muco-purulent in character. They contain elastic fibres, which are evident on microscopical examination; also occasional small, dense, slate-coloured portions of lung-tissue of a fibrous appearance. Plates of cholesterine also are often seen; likewise fatty and mucous corpuscles, the latter often containing granules of fat.—*London Med. Record*, March 15, 1878.

—

Pneumatic Treatment of Aortic Regurgitation.

Dr. FENOGLIO, Assistant in the Turin Medical Clinic, reports (*Centralblatt Med. Wiss.*, No. 46, 1877) three cases of aortic regurgitation which he treated successfully by the pneumatic method, the patients being made to expire into rarefied air. In each case there was excessive action of the hypertrophied left ventricle, and the treatment was directed to diminish the tension in the arteries, and increase the amount of blood in the lungs, and hence to remove the feeling of palpitation and subjective arterial pulsation, as well as the sensations of anxiety and thoracic oppression which the patients experienced—all these symptoms being in the main the result of the excessive compensatory action of the left ventricle. Sphygmographic tracings of the pulse showed that the height of the pulse-wave was lowered by the treatment, that the line of descent became less abrupt, and the previous dicrotism less distinct. This effect and the general improvement in the condition of the patients became more decided and more permanent at each sitting, and in one of the three cases the improvement continued a month after the patient had been discharged. The treatment lasted from fifteen to twenty-five days, with one sitting per diem. To sum up, Dr. Fenoglio's experience convinces him that "in cases of aortic insufficiency with excessive action of the hypertrophied left ventricle—that is to say, in the greater number of the cases of this aortic lesion which come under treatment—expiration into rarefied air is an effective therapeutic method." Naturally, the "cure" requires to be repeated from time to time.—*Med. Times and Gazette*, March 16, 1878.

Thrombosis of a Coronary Artery.

M. LAVERAN (*L' Union Médicale*, Feb. 23, 1878) reports a case of infarctus of the heart following thrombosis of a coronary artery. The following is a summary of his paper.

R., male, unmarried, was admitted November 7th, 1877, with orthopnœa and hæmoptysis. A month previously he caught cold, followed by cough, which did not keep him in bed; five days before admission he felt a severe pain in the side, which he could not precisely localize, but which had disappeared at the time of admission; at the same time his respiration became embarrassed, which speedily increased to orthopnœa. On November 8th he was sitting up in bed, breathing rapidly; his nose, lips, and ends of the toes and fingers were cyanosed; there was no œdema of the lower limbs; the percussion-sound of the chest was normal; there were mucous râles at the base of the left lung; the impulse of the heart was forcible; the area of dulness was increased; the heart-sounds were muffled, distant; no murmur; the heart's action was rapid; the pulse was frequent, compressible, irregular; the sputa were blood-stained. The diagnosis was pericarditis. He died on November 22d. The only changes to be noted were diminution in the audibility of the heart-sound; increase of the râles over the chest, hæmoptysis, and dyspnœa as the fatal termination was approached.

The necropsy was made on November 24th. There was no anasarca present. The pleural cavities were dry. The left lung was adherent above and behind. There were numerous hemorrhagic infarcts in both lungs; the pulmonary tissue was infiltrated with blood; there was no cavity filled with liquid blood or clots; the pulmonary vessels, whether near the hemorrhagic foci or not, were obliterated by old clots; blood was found in the trachea and bronchi. The pericardium was dry; there were no adhesions, no false membranes. There was a milk spot on the anterior surface of the heart. The heart was very large, measuring 17 centimetres (6⅔ inches) from the base of the ventricles to the apex, 14 centimetres (5½ inches) at the base of ventricles; when empty, its weight was 930 grammes (about 2 lbs. 1 oz.). Both ventricles were full of black clotted blood; the left ventricle occupied four-fifths of the area of a transverse section; the maximum thickness of the muscle of the left ventricle was three to four centimetres. A yellowish white patch, extruding through nearly the whole thickness of the myocardium, occupied the left border of the heart; the myocardium was elsewhere healthy, not fatty. Some white, fibrinous, tolerably resistant clots were found in the right auricle. On inspecting the inner surface of the left ventricle, after removing the clots, numerous pale patches were visible, on scraping which a brownish semi-liquid matter escaped; the whitish patch seen externally formed part of the peripheral zone of these abscesses of the heart; there were dots of ecchymotic redness on the pale patches. The aorta was dilated and slightly atheromatous; the valves were incompetent; there was a calcareous plate as large as a lentil at the base of one of the cusps, which prevented its complete extension. The segments of the mitral valve were indurated in places; their function was apparently normal. There was no lesion of the orifices of the right heart. The posterior coronary artery presented some atheromatous patches, but was permeable. The anterior coronary artery was permeable in the first part of its course, but notably enlarged; there were many atheromatous patches on its inner surface; at the part corresponding to the middle of the ventricle the artery was completely obliterated, felt like a round, hard cord, and contained a hard, white, ramified, evidently old, clot. The arterial wall at the seat of the thrombus was very atheromatous. The diseased parts of the myocardium corresponded exactly to the obliterated vessel. The liver was nutmeggy; the spleen small and hard. The kidneys were slightly granular. The cerebral arteries were atheromatous.—*London Med. Record*, March 15, 1878.

Diagnosis of Thrombotic Occlusion of One of the Coronary Arteries.

Dr. A. HAMMER, Professor of Surgery at St. Louis, at present at Vienna, publishes in the *Wiener Medicinische Wochenschrift* (February 2) an account of a case in which the above condition was diagnosed, and verified by post-mortem examination. The man, 34 years old, strongly built, had for the past year suffered from slight attacks of articular rheumatism, but no valvular affection of the heart had occurred. For four weeks previously to his being seen by Dr. Hammer, a very sharp attack of acute rheumatism had existed, but had gradually improved, and convalescence was proceeding. One day he got out of bed, and sat in an easy chair. In about an hour he suddenly collapsed, his pulse was 40, his lips pale and a little cyanotic; there was slight dyspnœa, but no pain. Five hours later his pulse beat only 23 to the minute, four hours later 16 to the minute; and when Dr. Hammer arrived (the previous observations having been made by the family medical attendant) the pulse was only 8 to the minute, a cardiac contraction occurring every eight seconds. There were no symptoms or signs of disease in the nervous or respiratory systems; percussion of the precordia showed no abnormal dulness. On auscultating the heart, the sounds were not accompanied or replaced by any murmur, but following them there was a tremor of the heart perceptible to the ear, conveying the idea of a clonic spasm, which lasted five seconds, the cardic sounds occupying one second, and the spasm being followed by two seconds of absolute rest. These phenomena were followed for twenty minutes, and were quite regular and without variation. Examination of the abdominal viscera and of the cervical region gave negative results. In arriving at his diagnosis Dr. Hammer was able to exclude fatty degeneration and enfeeblement of the heart by the physical signs, although perhaps at present we are not in a position to define exactly the signs of these affections. Alterations of innervation, he says, were contraindicated by the absence of all evidence of change in the central nervous organs, or in the cervical nerves; of an acute infectious disease there was no evidence; the percussion of the heart and the examination of the thorax generally negatived the idea of any altered relations of pressure or of any organic affection of the heart such as myocarditis, endocarditis, hypertrophy, atrophy, or valvular disease. The striking feature in the case was the suddenness of the collapse, which pointed to a sudden interference with the nutrition of the heart, possibly to thrombotic occlusion of the coronary arteries; further consideration convinced him that, though this was probable, only one artery could have been occluded, or the heart would have come to a stop altogether, while the regular tumultuous heart-spasm of five seconds' duration pointed to a one-sided affection. The affected side acted as a dead weight to the organ, and impeded the movements of the sound half; but whether the affected side was right or left no conjecture seemed possible. Dr. Hammer accordingly made his diagnosis, much to the astonishment of his colleague. The patient died nineteen hours afterwards; and, leave to make a partial examination of the body having with difficulty been obtained, the thorax was opened. The lungs were engorged and œdematous; the pericardium contained half an ounce of clear serum; the heart was of normal size and appearance, and lay in its proper position, fully distended. Its surface was smooth and shining, and, except a layer of fat in the coronary sulci, there was no trace of fatty or other infiltration. On removing the heart, they found the right auricle and ventricle full of clot, the cavities and valves normal; the muscular wall and endocardium were also normal. The left side of the heart was equally so, except the aortic valves. In these latter the most striking appearance was the distension of the right cusp by a mass which nearly filled the right sinus of Valsalva, and was of a hemispherical shape. The superficial

layers of this mass, followed into the coronary artery, were recent coagulated, yellowish-white blood-clots, but downwards from the coronary artery the clot became darker, drier, and finally of a gray-reddish colour. From the lowest layer a fine thread about an inch long passed, to become connected with the new growths about to be described. The aortic valves were not thickened, but the hinder cusp was united to the right and left cusps at their commissures for a short distance. Involving these attachments and the three-cornered part of the wall of the aorta immediately subjacent, were fresh, soft, whitish excrescences, which, with the slight adhesion of the valves, caused a partial stenosis of the aortic orifice. From the apex of one of these vegetations situated between the posterior and right cusps there was a slender prolongation, which was continuous with the fine thread-like process from the clot in the sinus of Valsalva.

Dr. Hammer says he has not been able to meet with an account of such a case in literature, nor has he found that the great clinicists, Bamberger and Kussmaul, with whom he has discussed the case, have had any similar experiences.—*Lond. Med. Record*, March 15, 1878.

Treatment of Gastralgia by the Internal Stomach-Douche, etc.

Dr. MALBRANC, of Naples, has published in the *Berliner Klinische Wochenschrift* for January 28 an article on the treatment of gastralgia by the stomach-douche. D., a governess, aged 22, suffered three years ago for several months from stomach-derangement without any apparent cause, presenting symptoms of a gastric ulcer. Under treatment, she recovered and continued well until four months ago, when she began again to suffer from general weakness, and neuralgia, chiefly of the face. She gradually became much reduced, and after a time digestion again became disordered, with constipated bowels. Ten weeks before she came under notice these symptoms were aggravated, and were accompanied by a fixed pain immediately below the ensiform cartilage, by acute tenderness in the dorsal region, frequent palpitation, and a sense of constriction of the throat. The appetite failed entirely, the little food taken was returned, and there was some blood in the stools. Various means, sinapisms, ice-pills, applications of extract of belladonna, etc., were tried, but in vain. The paroxysms of pain which came on from three to four hours after each meal were relieved by hypodermic injections of morphia; but in spite of nutrient enemata and faradization of the epigastrium the patient only became rather worse, so that mental emotions and straining at stool were enough to bring on the gastric pain. She now came under the care of Professor Kussmaul in Strasburg, whose assistant Dr. Malbranc then was. A regulated diet failed to afford relief. The following treatment was therefore adopted. In the morning a quantity, amounting in the end to 2 to 3 litres (3½ to 5½ pints) of tepid water, aerated with carbonic acid in the manner of soda-water, was injected by means of an elastic tube into the stomach, and after a while again drawn off. The stomach was thus washed out every day. Under this treatment the patient improved, so that in three weeks' time she was able to take a varied diet of meat and bread. The injections of morphia were gradually diminished in frequency, but were still required for the relief of the gastric pain, which always recurred when an attempt was made to evacuate the bowels. To relieve these pains and improve the state of the bowels, one pole of a battery was introduced into the stomach several hours after breakfast, while the other electrode was passed successively over all the abdominal muscles, and thus a powerful induction-current was daily passed for five minutes through the stomach and abdominal walls. Within the next following days, defecation became perfectly natural and painless. In a month, the patient recovered completely under the

continued use of the stomach-douche and of internal faradization, and was able to resume active employment. She has continued well ever since.

With reference to the question of the *modus operandi* of the douche with warm water holding carbonic acid in solution, the following points come under consideration.

1. The stomach is unloaded by the douche, and is thus enabled to recover its contractility. In all gastralgiæ occurring in consequence of overloading of the stomach, as frequently happens in typical cases of dilatation of the stomach, this emptying the viscus of its contents is a sure means of relief.

2. The removal of acid or acrid matter and the cleansing of the mucous surfaces by means of Vichy or other alkaline water. It is often important in cases of gastric dilatation, when large quantities of half-digested food are apt to accumulate, thus to cleanse the coat of the stomach of acid, perhaps fermenting mucus. This can only be done effectually in the morning, and when the stomach is yet empty. Not only is digestion thus facilitated, but the formation of large quantities of flatus, which is productive of pain and distress, is prevented.

3. Warmth thus locally applied to the inner surface of the stomach has a soothing influence, diminishing irritability of the gastric nerves and relaxing muscular spasm. To this is due the utility of a daily morning draught of warm water in certain cases of painful irritable dyspepsia. But the cases in which the warm douche is likely to be attended with benefit must be carefully distinguished from those in which it is inadmissible, owing to extensive ulceration and the tendency to hemorrhage. Closely analogous is the effect of injections of warm water *per anum* in certain forms of intestinal colic, especially lead-colic, in restoring the regular normal peristaltic movement of the bowels. Indeed, it is found that the warm stomach-douche is eminently successful in overcoming the constipation which is a frequent symptom in nearly all cases of gastric disorder.

4. The mechanical impact of the stream of water on the coats of the stomach stimulates the vaso-motor nerves, and so excites a healthy capillary circulation. Moreover, a healthy peristaltic movement of the stomach can often be excited by gently kneading the stomach with the open hand, after somewhat distending it with warm water. This has the effect also of completely cleansing the large rugæ which generally exist in the interior of large flabby stomachs.

5. The carbonic acid held in solution by the injected water acts as a direct sedative on the irritable gastric mucous membrane, and also tends to promote intestinal peristaltic action.

The introduction of the stomach-tube itself need in reality present no greater difficulty than the passing of a catheter into the bladder. The following points should be attended to

1. Before introducing the tube, we should measure off on it and mark the distance from the mouth to a point opposite the ensiform cartilage of the sternum. We thus insure the tube passing, when introduced, to a distance of one or two inches beyond the cardiac end of the œsophagus, and no further, and so avoid all risk of injuring or perforating the coats of the stomach.

2. It is a source of comfort to the patient to be able to grasp the tube with his teeth, whereby it is steadied, and also the amount of salivation and the tendency to retching are reduced. For this purpose, a notched bone or ivory slide should be passed over the tube for the patient to bite upon.

3. The tube should be rendered flexible by immersion in warm water, and oiled, previously to its introduction.

4. The patient should sit in as erect a position as possible, with the head bent backwards. The tube, which, with the attached funnel, should be first filled with warm water and held compressed between the fingers, is then introduced until the

prominence of the spine is felt obstructing its progress, when, on rapidly inclining the head forward, the tube will of itself slide into the stomach.

5. Should the entrance of the tube into the stomach be opposed by spasm of the œsophageal cardia, it is only necessary to allow the water to flow through the tube against the constriction, when the spasm will readily give way.

The danger of detaching the mucous membrane of the stomach by the suction of the pump is extremely small. The only real danger to be guarded against is perforation of the gastric walls by the tube, especially when there is ulceration, or adhesion of the stomach to surrounding viscera. All risk, however, is avoided by previous softening of the tube, by measuring off the distance to which it is to enter, filling it with water, and by the use of the notched slide.—*London Med. Record*, March 15, 1878.

—

Use of Soft Soap in Glandular Affections.

In the *Berliner Klinische Wochenschrift* for Feb. 11th, Dr. KAPPESSER suggests regular periodic inunction of soft soap in certain chronic glandular affections, and gives four cases in which it was so used with apparent success.

The first case occurred about twenty years ago. It was that of a peddler who, with his wife and four children, suffered from scabies, for which they were treated with local applications of soft soap. One of the children, a boy nine years of age, was also affected with scrofulous swelling of the glands of the neck, inflammation of the conjunctivæ and eyelids, etc., which had resisted all previous treatment. Owing to the greater severity in him of the cutaneous affection, frictions with soft soap were more frequently and extensively employed. Singularly enough, all signs of glandular and strumous disease disappeared simultaneously with the cure of scabies.

The next case occurred some years later, and was that of a little girl of about three years, in very poor and neglected circumstances. Both corneæ were ulcerated, with an acrid discharge; the glands and cellular tissue of the neck, especially on the right side, were enormously swollen, and there were six or eight fistulous openings, from which flowed an abundant thin purulent discharge. About half an ounce of soft soap, dissolved in a little tepid water, was rubbed twice a week at bedtime into the whole posterior aspect of the body, from the neck to the knees, with a piece of soft flannel, and was washed off again about ten minutes after its application. In addition, she was put upon nutritious diet and cod-liver oil. In about four weeks' time the glandular swellings had almost disappeared, the discharging sinuses were nearly closed, and the inflamed condition of the eyes had subsided; there yet remained a dense opacity of each cornea. Owing to neglect on the part of the child's relatives, this treatment was now interrupted, and its condition rapidly grew worse. But on resuming the regular inunction, etc., matters again quickly improved, and after a few months there remained only two small dim spots on the corneæ, while otherwise the child was to all appearances well, and was still so when again seen two years afterwards.

The third case was in nearly all respects similar to the last one, and under the application of soft soap, with nutritious diet, etc., complete recovery resulted.

The fourth case was somewhat different. It was that of a female infant, sixteen months old, and was first seen in August, 1876. It then presented a hard and tender glandular swelling of the size of an egg behind the angle of the left jaw; the mouth, nose, and anus were excoriated, the entire skin was covered with dark spots and a papular eruption, and the scalp was a mass of thick crusts, beneath which was a raw suppurating surface. The gums and buccal mucous membrane were ulcerated. Under the idea that the affection was syphilitic the child was treated with the suboxide of mercury, apparently with benefit. Some

months afterwards, it again came under observation, in a sadly worse condition. The cervical swelling was still hard, and had grown considerably; the eyes were inflamed, and one of the corneæ was ulcerated; the left lower jaw showed signs of necrosis in the place where one of the molar teeth had dropped out; all the fingers, and most of the toes were swollen, inflamed, and covered with ugly sores, while pustules and boils were spread over the entire body, especially about the anus and genitals, and the scalp was covered with a thick crust. Soft soap was now regularly rubbed into the back in the manner above described, avoiding the more inflamed parts, while the sores of the mouth were touched with a solution of potassium chlorate. In a short time the ophthalmia diminished, the sores and cutaneous eruption began to decrease, and the crusts of the scalp to fall off, leaving a clean healthy surface; the glandular swelling in the neck decreased considerably, leaving only a certain amount of induration of the jaw, while the child's nutrition and general health improved rapidly, until only the necrosis of the jaw remained, to be met by appropriate treatment.

Dr. Kappesser considers the above cases to justify the argument of *post hoc ergo propter hoc*. He wishes mainly to direct attention to the treatment employed, with a view to its further trial in similar cases, and also in chronic inflammation and ulcerations, especially of the joints and internal organs.—*London Med. Record*, March 15, 1878.

—

Pathological Histology of Lupus Erythematosus.

Dr. STROGANOFF examined portions of skin excised from a patient who exhibited a well-marked form of this disease, and found (*Centralblatt für die Medicinischen Wissenschaften*, No. 48, 1877) that the pathological changes do not merely consist in an inflammatory condition of the connective tissue of the skin, but that there is a special affection of the epidermis, sebaceous glands, and hair-follicles.—*London Med. Record*, March 15, 1878.

—

Wilhelm on Erythema Nodosum.

A weak anæmic girl, aged 18, suffered from quotidian ague which yielded to quinine, in September, 1876. (*Berliner Klin. Wochensch.*, January 28th, 1878.) In December, 1876, she again suffered from nightly attacks of fever, this time accompanied by swellings on the legs and forearm, which had the characteristic appearances of erythema nodosum. The second attack of fever did not yield to quinine, but the patient recovered whilst taking iodide of potassium and small doses of morphia.—*London Med. Record*, March 15, 1878.

Surgery.

Carbolized Gut as a Surgical Dressing.

In a communication to the *Allgemeine Medicinische Central-Zeitung* for February 17, Dr. FLASHAR, of Polkwitz, writes as follows:—

Starting from the fact that catgut threads used for ligature are completely absorbed, it occurred to me to prepare portions of intestine in the same way as catgut, and to use them in appropriate cases as dressing. Having procured a piece of dried sheep's intestine, I cut it lengthwise, and soaked it in carbolized oil (ten per cent.).

After about six weeks, I had an opportunity of trying it in the case of a young man whose right hand had been injured by a machine. The wound, which gaped widely and penetrated the deeper tissues, extended obliquely along the surface of the hand to the middle and ring fingers, both of which were injured. The edges were torn and ragged, and the subjacent tendons were partly laid bare. After cleaning the hand and wound, I applied to the latter a large piece of the prepared intestine, still dripping with oil, in such a way as to overlap a portion of the uninjured skin. The whole was covered by a cotton-bandage and left undisturbed as long as circumstances allowed. For the first time, at the end of six days there was some offensive smell, and the patient felt a slight burning; previously to this neither pain, swelling, nor inflammation had been observed. The dressing was opened on the seventh day, and, to my astonishment, I found that the portions of intestine lying on the wound were perforated, and for the most part absorbed; the wound beneath was in an advanced state of cicatrization, so that it wanted comparatively little to complete its closure. The smell which had been perceived proceeded from the portion of intestine which lay on the sound skin; it had there assumed a whitish colour, and appeared like intestine which had been softened in water. The dressing was renewed, the sound part being left free, and in a remarkably short time the small remaining portion of the wound was healed. The cicatrix was so soft and pliable that the vitality of the hand and fingers was not impaired in the slightest degree.

I made a second trial of the same material in a case of separation of webbed fingers in a young child. After cutting through the uniting membrane, I wrapped each finger separately in prepared intestine, and also laid a piece in the angle of the wound. Cicatrization went on unequally in all parts of the wounded fingers. Unfortunately the parents, who lived in a village, were prevented by bad weather from bringing their child to me at the proper time for removing the dressing, and consequently readhesion took place to a trifling extent. The cicatrix was so soft, and the tissues felt so normal, that I had no fear of future contraction and stiffness. In this case also I observed that the portion of intestine which lay on the normal skin had become soft and pale.

I believe that it is absolutely necessary to soak the intestine for a month in the carbolized oil, in order to render it fit to be used as a dressing to amputation-wounds where skin-flaps cannot be formed, or to wounds in which a great loss of substance is to be feared, especially on the skin.—*London Med. Record*, March 15, 1878.

Injuries of the Scalp.

In the *Lancet* of Jan. 26, 1878, Mr. ERICHSEN, in continuation of his lectures upon injuries of the head, reviews the subject of scalp-injuries, explaining why, on account of the extreme vascularity of the part with its serpentine vessels, anastomosing one with the other freely, and lying amongst dense granular fat that hinders their ready contraction, hemorrhage is necessarily profuse and often uncontrollable. Hence the care necessary in removing sebaceous and other tumours; and if from any cause hemorrhage should be difficult to arrest. Mr. Erichsen points out how easily acupuncture will effect the purpose. The reason why traumatic erysipelas of the scalp is more apt to arise than from wounds in other parts of the body, is the looseness of the areolar tissue on which the tendon of the occipito-frontalis lies, where pus often collects, owing to the pouch or bag generally found in scalp-wounds; hence the necessity of drainage, and hence the reason why stitches in scalp-wounds, by closing up the mouth of the pouch and hindering the escape of the matter formed, are followed by erysipelas. Mr. Erichsen repudi-

ates all complicated artistic bandages in scalp-wounds, believing them to be worse than useless.

The diagnosis between abscess and erysipelas of the scalp is clearly described. In erysipelas, the ears are red, swollen, and covered with blebs; in abscess, the occipito-frontalis muscle determines the limits of the fluctuation. The wonderful reparative powers of the scalp are noted, and cases mentioned where large portions have been removed without harm.

The phenomena of true and false stunning are well described. Two persons are thrown out of a carriage; one is stunned, forgetting on recovery everything that happened a minute or two before losing consciousness; his companion is picked up also unconscious, but can remember on recovery from faint all the minutiæ of the accident. The vastly different after-history of the two cases is clearly defined. The important question, "Is he drunk or dying?" concludes Mr. Erichsen's second lecture, and is answered by the important advice, "Wait and see; do not decide too hastily."—*London Med. Record*, March 15, 1878.

—

Extravasation of Blood on the Dura Mater.

A series of cases are commented upon by Mr. ERICHSEN in the *Lancet* of January 5, 1878, where clots were found after death, or by the aid of the trephine during life, upon the dura mater. In one case a child falling down stairs was picked up a little dazed, and was found dead in bed the next morning with a clot upon the dura mater on the side struck. In another case a lady, treading on the train of another lady's dress in advance, tripped, struck her head against the wall, and died some hours afterwards, comatose, a large clot being found on the side struck, over the meningeal artery, but without any fracture of the skull. A cabman who was thrown off his box was trephined, and a large clot being removed from under the bone, made a good recovery; but a brewer's drayman, who met with a similar accident, and was similarly treated, succumbed, the middle meningeal being found torn, but not divided, and this typical case serves to illustrate Mr. Erichsen's views of the nature and treatment of such cases.

One peculiarity of wounds of the middle meningeal artery is that blood wells up, and is not ejected *per saltum*. This is due to the course of the artery, hemorrhage from which will cease of itself if it be divided, though the surgeon cannot arrest it otherwise than by plugging. The large size and peculiar shape of the clots was pointed out, and also the fact that, owing to the great vascularity of the dura mater, blood was extravasated under the calvarium, in many cases without any injury of the middle meningeal artery itself, its smaller branches alone suffering. Mr. Erichsen alluded to Sir Charles Bell's well-known experiments, proving that the dura mater is separated from the calvarium by the force of the blow, and that subsequently hemorrhage fills up the space thus formed; otherwise the extravasated blood could not itself separate the adhesions between the calvarium and dura mater.

Two cases are related where the injury occurred, not to the arteries, but to the veins of the dura mater. Both proved fatal, one after several months, where the diagnosis was not verified *post mortem*. In the other it was found that a portion of bone was driven inwards, and had lacerated the lateral sinus, which had bled freely when the patient was trephined; plugs of lint were applied to assist the hemorrhage, and these eventually led to pyæmia; and this case, Mr. Erichsen thought, explained the symptoms that used to puzzle surgeons of old, namely, the occurrence of pyæmia and the tendency to secondary deposits, especially in the liver, after injuries to the head. The liability to abscess forming between the cranium and dura mater was explained by the fact that the periosteum is separated as well as the dura mater, and hence the supply of nutriment is cut off from

the calvarium, which becomes, like all necrosed bones, a source of irritation and of abscess.— *Lond. Med. Record*, March 15, 1878.

Cerebral Blepharoptosis.

Dr. LANDOUZY has published in the *Archives Générales de Médecine* a note on cerebral blepharoptosis. Ten observations of paralysis of the levator palpebræ superioris are given. In all, the paralysis offers the special characteristic of being crossed, as in hemiplegia, and limited, in the third pair, to the portion supplying the levator. From the examination of these facts the author concludes that: 1. The origin of the motor centre of the eyelid must be looked for in a posterior region of the parietal lobe; 2. This origin is not in immediate contact with the motor centre for the limbs; 3. Amongst the nervous bundles which constitute by their union the third pair, those alone destined to the innervation of the levator palpebræ superioris seem to have congestion with the hemispheres. The cerebral paralysis of the third pair being never complete, the origin of the different fibres of the motor oculi is distinct for the branch supplying the levator, those going to the other muscles of the eye.—*Lond. Med. Record*, March 15, 1878.

Diphtheritic Inflammation of the Conjunctiva.

True diphtheritic conjunctivitis has not been noticed in this country, but in many of the larger German towns the complaint appears to be not uncommon. In Vienna, during the year 1874, it assumed the form of an epidemic, and its contagious nature was only too clearly demonstrated in the St. Joseph's Children's Hospital, where one case having been admitted, the complaint spread from bed to bed, chiefly among patients suffering from measles. Out of eighteen children thus affected, eleven died. In two lectures recently delivered before the Vienna Medical Society, Dr. HANS ADLER, under whose care the patients were, has given a minute history of the epidemic and of some sporadic cases which occurred about the same time. The following are the principal local symptoms which serve to distinguish this complaint from the catarrhal form: The eyelids are hard, tense, and opened with difficulty, the attempt to do so causing much pain; the upper lid cannot be everted; the mucous membrane firm, infiltrated, pale, not injected, the local circulation arrested; the effused fibrinous layer is firm, adherent, and rapidly renewed; the secretion consists of a dirty gray fluid containing white flakes. The local treatment recommended by Dr. Adler consists in the application of iced compresses during the first few days; these are to be followed by cold-water dressings, and subsequently by warm moist applications. He recommends also the local employment of atropine from the commencement. He disapproves strongly of the use of caustics, such as nitrate of silver, the action of which in such cases he believes to be most mischievous. Constitutional treatment of a supporting character must of course not be neglected. The disease is a very serious one, and of those who survive very few escape without some lesion of the cornea.—*Med. Examiner*, April 4, 1878.

Keratoplasty.

An interesting series of articles has appeared in the recent Italian medical journals on plastic operations upon the cornea. In the report of the ophthalmic section of the Turin Medical Congress, given in the *Annali di Ottalmologia*, Fasc. 1, 1877, a paper appears by Professor GRADENIGO, of Padua, in which he discusses the feasibility of keratoplasty, which he calls the "oculist's philosopher's stone." The author first notices the advantages to be gained by substituting a transparent substance in the place of an opaque cornea, and the want of success which has hitherto attended attempts to transplant portions of transparent cornea

or to introduce artificial corneæ of glass or other substances. After investigating the causes opposed to success, Professor Gradenigo believes failure to have been due to the following: 1. The corneal tissue, although rich in nerves, has no bloodvessels except in the fœtal state. A pannous cornea will tolerate and repair a wound or loss of substance more readily than a normal cornea. 2. The secretion of the aqueous humour, like the rapid products of the ocular mucous membrane, acts damagingly against the prompt agglutination of the margins of the cornea and its graft; and if sutures, however fine, be used, foreign bodies are introduced whose presence will probably be injurious. 3. Up to the present time, attempts have been made to introduce too large an extent of new cornea, whilst a point of transparent tissue is all that is really needed to afford useful vision. These new portions have been inserted into eyes altered by disease, the anterior chamber has been wanting, or the conditions for nutrition of the new fragment have been unfavourable. Professor Gradenigo made many experiments with a view of overcoming the difficulties before him, and at last adopted a method which has proved successful.

Remembering the greater tolerance of the pannous cornea, the author endeavoured to produce new bloodvessels upon the corneæ of animals, such as are found in keratitis superficialis, by introducing irritating substances into the conjunctival sac. The result did not prove satisfactory. Still keeping the same object in view, the author cauterized the corneal surface, excepting only a small triangular portion in the centre, the site of the intended graft. The action proved too diffused, and eventually the cortical layers of the cornea were removed by the knife. By then dissecting up the surrounding conjunctiva (as in the early steps of enucleation of the globe) and drawing it forward over the denuded cornea, fixing it with sutures, artificial pterygia were obtained. These afforded a solid base for the supply of nutrition to the cornea. This procedure was adopted both in the eye to receive the graft and the eye (generally a rabbit's) supplying it.

Adhesion of the conjunctiva to the cornea takes place rapidly and firmly. The clear centre of the cornea should be not greater than one-third of its extent, and it should be surrounded by from three to five apices of conjunctiva. When these pterygia are fully formed, the operation may be undertaken. First of all the condition of the eye of the patient should be carefully investigated, as to its freedom from morbid secretions, sensitiveness to light, etc. The patient should then be placed in the horizontal position, and fully anæsthetized, the eyelids being kept widely apart by the speculum. The conjunctiva is then carefully removed by scissors from the cornea and surrounding sclerotic. The flow of blood is at first encouraged by means of hot sponges, then completely arrested. An opening is then made in the cornea, of the size and shape of the intended graft. Then the animal (rabbit) being killed, the whole of the conjunctiva is carefully dissected off the sclerotic, and the whole of the cornea removed with the conjunctiva and the artificial pterygia attached. This is immediately placed upon the back of the left hand of an assistant, to facilitate the later stage of the operation and to maintain a certain degree of heat in the tissues. The final stage of the operation consists in clearing the conjunctiva carefully off the corneal graft, until the operator is able to cut it to the size of the opening made in the human cornea. The graft must then be placed in the opening made for it, the conjunctiva adherent being spread out by means of smooth-pointed forceps over the denuded surfaces of the cornea and sclerotic, and secured in position by sutures. The eye must be closed and covered with a soft pad and bandage, and not opened for twenty-four hours. The eyelids should be cleansed, and the bandage renewed every day, but the upper lid should not be raised for three days.

A modification of this process, in which the whole of an animal's cornea pre-

pared after Professor Gradenigo's method was transplanted, is narrated by Dr. Rosmini, of Florence, in a letter to Professor Strambio, published in the *Gazzetta Medica Italiana-Lombardia*, April 28, 1877. This case was apparently successful for a few days, but the cornea was soon destroyed by parenchymatous keratitis.

In a masterly letter (*Annali di Ottalmologia*, Fasc. 2, 1877), Professor Gradenigo draws Dr. Rosmini's attention to what he conceives to be the sources of his failure, viz., the attempt to transplant an entire cornea, and the neglect of careful adaptation of the conjunctiva and its ineffectual securing by sutures. Professor Gradenigo also remarks, in a tone of gentle remonstrance, on the impatience which Dr. Rosmini showed in operating before the arrival of a rabbit specially prepared by Professor Gradenigo at his request. This draws from the editor of the *Annali di Ottalmologia* some strong expressions of admiration for Professor Gradenigo's patient work and brilliant results, and also a remark on the untimely haste with which the report of the apparent success of Dr. Rosmini's operation was given to the journals, which is worth quoting. Speaking of premature communications to journals as being too much the fashion now-a-days, he says: "These communications appear to us capable of comparison with those fireworks, which, darted by night into space, illuminate the horizon for a little while, but which spend themselves quickly in falling, and leave nothing behind them but an obscure trace of smoke, and the darkness as before."—*London Med. Record*, Dec. 15, 1877.

—

The Action of Chlorhydrate of Pilocarpine in Certain Affections of the Eyes.

Dr. ALEXANDROFF, of Marseilles, claims for chlorhydrate of pilocarpine an action little short of miraculous in rheumatic iritis and choroiditis; two or three subcutaneous injections of the alkaloid, according to the author, having restored vision in cases which most English ophthalmologists would regard as almost, if not entirely, hopeless. The author states that the alkaloid in solution applied to the eye acts in the same manner as eserine, but that it does not give rise to pain after its application. Salivation, profuse sweating, epiphora, and flushing of the face followed immediately after the injection of the drug, and continued for some hours.—*London Med. Record*, March 15, 1878.

—

The Causes of Glaucoma.

At the Ophthalmological Congress at Heidelberg in 1877, the subject of glaucoma was discussed at considerable length.

Dr. STILLING maintained that there are two forms of the disease: *glaucoma anticum*, in which the canal of Fontana is narrowed or obliterated; and *glaucoma posticum*, in which there is obliteration of the lymph-space surrounding the optic nerve. He stated that, from five to ten days after the optic nerve of a rabbit had been tied, there was intense glaucomatous hardness of the eyeball.

Dr. SCHMIDT-RIMPLER expressed the belief that disturbance of the circulation in the veins is a cause of glaucomatous hardening. He also stated that, in four cases in which he injected oil into the anterior chamber of a rabbit's eye, and in which no inflammation supervened, there was no change to be observed in an examination with the ophthalmoscope; that there was a rise of intraocular pressure from the injection of various substances into the anterior chamber; but that he considered that there is a wide difference between mere increased intraocular pressure from this cause and glaucoma simplex.

Dr. AD. WEBER answered that a very accurate knowledge of the ophthalmoscopic appearances in the rabbit's eye is needed to decide from the use of the ophthalmoscope whether there were cupping of the disk or not.

Dr. HERMANN PAGENSTECHER recorded a case of glaucoma in which there was no alteration in the condition of the canal of Fontana, and a second case in which there was complete obliteration of the canal without glaucoma.—*London Med. Record*, March 15, 1878.

—

Drainage of the Eye by Wire Seton.

In Wecker's *Relevé Statistique* and in *Annales d'Oculistique*, Mars–Avril, 1877, p. 140, will be found an account of a new plan of drainage of the eye introduced by WECKER. The statistics include 58 cases in which he has employed wire-drainage. Detachment of the retina, 27; of the choroid, 1; glaucoma (absolute), 12; (inflammatory), 2; glaucomatous keratitis, 1; glaucomatous iritis, 1; hydrophthalmos, 5; staphyloma (ciliary), 1; (corneal), 5; sclero-choroiditis (anterior), 2; keratoglobus, 1; opacity of the cornea, 1. After some preliminary remarks on the history of previous attempts at drainage and the reasons for their failure, he says there are two points still undecided, (1) the length of sclerotic included between puncture and counter-puncture (8 to 10 mm. probably, .32″ to .40″), and the method of fastening the wire in reference to tightness, pressure on the eyeball, etc. The wire should be drawn on at the moment of twisting it, to insure that it should not project into the eyeball, but not tightly enough to damage the sclerotic. These remarks are made especially in connection with its application to detachment of the retina. The comprehension of the description of the procedure is facilitated by four figures. The instruments, etc., employed are (1) a curved needle, hollow, and 3 centim. in length (1.2″), analogous to the curved canula of a Pravaz syringe; (2) a thread of gold, 6 centim. (2.4″) in length, bent at its centre so as to form a loop. The ends of this thread are to be passed along the needle nearly to its point; (3) a needle-holder without a catch, having a groove which will hold the needle firmly (special contrivance); (4) a small pair of forceps with branches crossing each other (serre-fils); (5) forceps with large branches for twisting the wire. The plan of procedure is as follows: 1st. To apply the wire. The lids are separated by speculum, the eye directed upwards, the conjunctiva, etc., seized with fixation forceps below and outside the cornea, and the eye drawn well up. The needle is then introduced between the inferior and external recti as near as possible to the equator, and brought out again so as to include about 1 centim. (.4″) of the sclerotic between puncture and counter-puncture. As soon as the point of the needle presents through the conjunctiva (which is liable to be pushed before it rather than perforated by it) the fixation forceps are laid aside. The point of the needle is seized (without any hurry) by the fingers or the needle-holder, and whilst the extremity of the wire is then held the needle is withdrawn. The wire is thus left in position. 2d step. The extremities of the thread are seized carefully and crossed over the bridge of sclerotic. The small catch forceps are then used to hold the wire, the branches being so placed that one is above and the other below (not in front and behind); the forceps in fact lying in the direction of the needle making the puncture and counter-puncture. The forceps are then allowed to hold by their own spring. 3d. The ends of the wire are seized with the torsion forceps and twisted together. The wire is then cut off about 3 or 4 mm. (.9″ to 1.2″) from the catch forceps, and the remaining piece bent in the form of a hook. The forceps being removed, the hook is bent down on the sclerotic so as to lie along the line of puncture and counter-puncture and not project from the globe. The wire is then gently drawn by forceps near the points of puncture and counter-puncture so as to insure more accurate adaptation. In *Zehend. Klin. Monatsbl.*, xv., p. 91, is a further note. He alludes to seton in corneal margin. It must be

shorter than the other, and a shorter and straighter needle is used. Also Note in Graefe's *Archiv*, Bd. xxii., Abth. iv.—*Royal London Ophthalmic Hosp. Rep.*, Dec. 1877.

—

Puerperal Amaurosis.

In the *Berliner Klinische Wochenschrift* for February 4, Dr. F. WEBER relates the following case: Frau S., aged 20, weakly, anæmic, and of slight stature, married one year, was attacked in the seventh month of her pregnancy with polyarthritis. At each fresh inflammation of a joint there was a considerable rise in temperature. This reduced the patient's strength considerably. The urine became cloudy, ammoniacal, and albuminous. At the end of the eighth month, on the morning of the 21st October, labour-pains suddenly set in, and were of a spasmodic nature. About twelve hours after the beginning of labour, without any prodromata, the patient suddenly called out, "I can't see; I am blinded." She was perfectly conscious at the time. She complained of headache and sparks before her eyes. The spasmodic pains continued; the os uteri remained rigid and dilated only to the size of a half-crown. At eleven o'clock in the evening she had a fit of convulsions, whereupon a hypodermic injection of morphia was given, and chloroform-narcosis obtained. After nineteen more attacks of convulsions, during which six ounces of chloroform were used, the rigid os was incised, and an asphyxiated child was delivered by the forceps. The placenta was expressed, and the uterus contracted well. For the next twenty-four hours she was unconscious and had twelve convulsive attacks, which gradually decreased in duration and intensity. A profuse foul-smelling perspiration set in. The urine contained two-thirds albumen. During the next twenty-four hours there were five more eclampsic fits; urine albuminous; she was furiously delirious, with intervals of consciousness. Chloral-hydrate was given in large doses. After this there were no more convulsions. The delirium was moderated by chloral-hydrate. She began to regain her sight on the 26th October. The delirium continued more or less until November 8. The inflammation of the joints persisted, and materially retarded convalescence. By November 10 the albumen, polyarthritis, and amaurosis had entirely disappeared. Dr. Weber remarks that the case is noteworthy on account of the amaurosis, polyarthritis, eclampsia, and inflammation of the kidneys, terminating in recovery.—*London Med. Record*, March 15, 1878.

—

Acute Symptoms from Accumulation of Cerumen in the Ear.

The following case, reported by Dr. F. M. PIERCE, Senior Surgeon to the Manchester Ear Institution (*Med. Times and Gaz.*, March 30, 1878), well illustrates the necessity for practitioners and students making themselves acquainted with, at least, the elements of special diseases. Of late years the establishment of lectures and demonstrations on diseases of the eye, ear, throat, and skin have enabled the student to acquire some practical knowledge of those subjects before commencing general practice. There are still, however, many provincial schools in this country without any pretence to the teaching of special diseases. A comparatively short course of the practical study of diseases of the eye and ear will save many a practitioner from falling into the error illustrated by the following case:—

On Sunday evening, about 11 P. M., I called to see Mr. C., a chemist. I found him lying in bed, pale, anxious-looking, bathed in a profuse perspiration, and complaining of intense pain over the vertex and left side of the face, neck, and jaw. He was afraid to eat or speak; had had little or no sleep for the previous three days. The pulse was full and bounding, 120; the tongue dry, but

clean; the temperature much increased (thermometer not used). There was nausea, and constant throbbing tinnitus aurium of the left ear.

He did not make any special reference to his ear, except that his illness began four days before with earache after taking a cold bath, which quickly became a diffused incessant pain over the entire head and neck. On the second day of his attack his medical attendant, who had been called in, ordered a mixture, and, as far as I can learn, regarded the complaint as some form of cerebral inflammation. At the time of my visit, on the fifth day of his illness, Mr. C. certainly looked very ill, and was surrounded by his friends, who seemed to have given up hopes of his recovery. He had dosed himself freely with opium, chloral-hydrate, etc., but without relief; and when I saw him his head and neck were smeared over with fresh belladonna plaster, but all to no effect.

Everything suggesting the left ear as the seat of mischief, I found on examination that a watch was inaudible at the external meatus; a tuning-fork on the vertex was heard entirely in left ear; the walls of the meatus were greatly swollen and congested; and a smooth, glistening surface covered with a débris of white epithelial scales beyond and concealing the membrana tympani.

There was evidently acute inflammation of the outer layer of the membrana tympani and of the adjoining walls of the meatus behind the firm plug of cerumen, most probably due to the entrance of cold water. Syringing with warm water and a weak solution of iodide of potassium had no effect in removing the obstruction, and I therefore used a pair of very fine curved forceps, made on purpose to apply through the open speculum I use with Brunton's auriscope, and removed the wax piecemeal. This afforded instant and great relief.

A lotion (of carb. sodæ, liq. atropiæ, and liq. opii sedat.) was to be instilled warm and retained all night.

Next day Mr. C. was almost free from all previous symptoms, and had slept well; the tinnitus aurium was now of a buzzing character and very slight, and the hearing distance two inches. There was no pain over head, ear, or neck, and the feverishness and nausea had gone.

After syringing the ear clean, the hearing distance was thirty-six inches; the meatus was seen to be still much inflamed, and there was a most offensive discharge of pus; the membrana tympani was of a yellow sodden opacity, with great congestion of the vessels of the manubrium. An astringent lotion was applied for three or four days, and at the end of that period the Eustachian tube was opened with Politzer's bag. No perforation was observed, although such a condition was probable.

Although the simplicity of treatment and rapidity of recovery in this case may seem almost amusing, the condition of the patient and anxiety of his friends gave an aspect of gravity to his complaint, which might have been avoided by an early and correct diagnosis.

Simple as it may seem, the recognition of a firmly adherent layer of cerumen to the membrana tympani is not so easy unless the medical attendant has had some practical experience in aural disease. A slight acquaintance with the appearances of the various forms of ear disease would have saved any practitioner from the error for which this patient suffered.

Discharges from the Ear.

Under this title, Prof. JOSEPH GRUBER contributes to the *Allg. Wien. Med. Zeit.*, January 1 and 8, a paper which is especially valuable for the precautionary treatment which it insists on. He dwelt strongly on the mischief which so often arises from treating this troublesome affection by applications to the meatus with-

out the precise source of the discharge having been ascertained; and even in cases where this is apparent, the most suitable kind of application is frequently not selected. When there is a circumscribed inflammation of the walls of the meatus, the membrana tympani being intact, we should abstain as much as possible from dropping stimulating liquids into the ear, as experience has shown that this procedure favours the extension of the inflammation to the membrane, while the end in view may be accomplished by other means. And especially should we abstain from the use of astringent or stimulant fluids when the membrane is perforated, the deeper structures being in a healthy condition; for these fluids, passing into the tympanum, or even into the pharynx, through the Eustachian tube, may prove the primary cause of a consecutive affection of the cavity of the tympanum, or induce great irritation in the pharynx. When it is remembered that the mucous membrane of the pharynx is far less sensitive than that of the cavity of the tympanum, we can easily infer how dangerous these applications may prove to the latter. Moreover, it is not necessary that such fluid substances should be of a stimulant character to do harm; for even simple water poured into the ear will often (as may be seen on inspection) induce hyperæmia in the normal membrane, and still more easily in the mucous membrane of the tympanum, that may easily go on to inflammatory action. Still more easily is this effect produced when these liquids are forcibly propelled into the ear by means of a powerful syringe.

Enough has been said to show that the practitioner in treating otorrhœa through the meatus should not only make use of suitable substances, but be also very careful in his mode of applying them. Strong solutions or ointments are usually applied to the meatus, when the inflammation is circumscribed, by means of pencils or other contrivances; but Prof. Gruber employs for this purpose, on a large scale, at his clinic, plugs prepared in a suitable way with the medicinal substances. These medicated plugs can be applied very easily by means of the ear-forceps while the patient holds his mouth open, and admit of being readily adapted to any part of the meatus that may seem especially to need them. Even in cases in which the amount of swelling of the external part of the meatus prevents inspection of its deeper portion, and where other symptoms lead to the suspicion that the deeper structures of the ear are also suffering, yet, unless some pressing indication be present, it is preferable to proceed first by treating the affection of the outer part of the meatus by means of the medicated plugs. The deeper parts can then be inspected, and the further plan of treatment be decided upon; and it has often been found that in this way recovery is effected much more rapidly than if the usual plan of dropping liquids into the ear from the commencement had been pursued. Instead of these medicated charpie plugs, we may use in some cases, with excellent effect, plugs of *laminaria digitata* shaped conformably to the meatus, and smeared before application with a suitable ointment. A thread should be attached to the outer end in order to facilitate removal. In long-continued affections of the ear, attended with otorrhœa, the cavity of the meatus may have become obstructed by hypertrophied tissue, so that the passage may seem quite obliterated; and in such cases the formation of pus in the deeper-situated parts becomes of the more consequence by reason of the difficulty of its discharge. Here the application of the *laminaria* becomes very useful by re-establishing the passage, and frequently enabling us to inspect the deeper tissues. In not a few cases this improvement of the local conditions, by securing the freedom and the cleanliness of the meatus, has sufficed to relieve the inflammation, and to arrest an otorrhœa which has for years resisted the treatment by heroic measures. Accumulating experience has more and more convinced Prof. Gruber that otorrhœa which has been so over-treated should, as a

general rule, be treated by mere expectation until the exact condition of the diseased processes can be ascertained, and separated from those which have been artificially engendered by the treatment adopted; and in not a few cases he has been able, by the use of simple water for the purpose of cleanliness, to effect more than have others by very tedious and sometimes very teasing modes of treatment. Dropping astringent substances into the ear has been practised in the most objectless or even mischievous manner in otorrhœa dependent upon chronic or acute inflammation of the meatus, or upon the partial suppuration of polypous growths, the increase of the latter instead of their diminution being the consequence. The same objection to this form of treatment applies also to insufflation of astringent powders into the meatus. Not only may the alum or other powder be deposited on places where it may prove mischievous, but, detained in the crypts of the meatus, it may form, where cleanliness is neglected, concretions with the discharges, and increase rather than diminish the irritation. In such cases, the first procedure in treatment often consists in removing these concretions, which sometimes are the sole cause of very violent pains.

In otorrhœa dependent upon inflammation of the meatus or membrana, Prof. Gruber has long employed an artificial membrana tympani as a means of cure. He has so modified Toynbee's membrana that any patient can easily construct, and by means of a forceps apply it for himself. This may be formed of very different materials, but fine linen is usually preferred. This is smeared with weak stimulating ointments of oxide of zinc or red precipitate. The artificial membrane is also of great protective use in inflammation of the cavity of the tympanum, shielding it from external irritating influences—a protection that sometimes suffices for the arrest of the otorrhœa. Quite recently, Prof. Gruber has had prepared medicated gelatine, in the form of globules and almonds of various sizes, which contain medicinal substances in different quantities; as zinc, tannin, borax, sublimate, nitrate of silver; and, in painful affections, opium or morphia. After cleansing the meatus, the preparation is deposited in this either by means of the finger or forceps, and, if required, pushed further in by a pencil of wadding. The meatus is then closed by wool, and the medicinal substance gradually dissolves, and acts for a long time on the diseased parts. In proper cases this means of medication suits better than any other, and is likely to find acceptance in affections of the ear. Its prolonged action renders its frequent renewal unnecessary, while the gradual manner in which it operates causes it to be easily borne by the patient. Prof. Gruber anticipates that he will have conferred an important benefit by the introduction of this procedure. It seems especially useful in the tumefied condition of the mucous membrane of the cavity of the tympanum accompanying destruction of the membrana tympani.—*Med. Times and Gaz.*, March 23, 1878.

—

The Inspection of the Naso-Pharynx from the Nostrils.

In the *Archiv für Ohrenheilkunde*, vol. xii., part 4, ZAUFAL describes his method of examining that part of the naso-pharynx which, as a rule, has been obscured from the difficulty of lighting. He uses a series of five specula, from 10 to 11.5 centimetres (4 to 4½ inches) long, with a calibre of from 3 to 7 millimetres (.12 to .28 inch) in diameter. These are passed along the floor of the nasal cavity till the smaller end reaches the naso-pharyngeal cavity, and the examination is made by throwing light in by the usual laryngoscopic mirror. The mouths of the Eustachian tubes and the naso-pharyngeal walls can be thus seen. He holds it to be a valuable aid to rhinoscopy and the determination of the state of tumours in the cavity by means of the finger.—*London Med. Record*, March 15, 1878.

Bloodless Tracheotomy.

Every one who has been called upon to perform tracheotomy upon a young child suffering from threatening asphyxia, where the venous plexuses of the neck are engorged, and each touch of the knife may flood the wound with blood, will appreciate any method of operating by which this danger can be avoided, and tracheotomy added to the list of the bloodless operations. The attempt to accomplish this has been several times made. In 1872 M. Verneuil employed the galvanic cautery instead of the bistoury in several cases, with success; but this method is evidently ill-adapted for general use, as the necessary apparatus is cumbrous, and only to be found at hospitals. More recently Mons. G. Poinsot, of Bordeaux, has used Paquelin's thermo-cautery with excellent results, and his example has been followed by other French surgeons. The skin and soft parts quite down to the trachea should be divided by successive light touches of the point of the cautery, heated to a dull red colour, and when the trachea has been exposed it should be opened with the knife, and the tube inserted in the usual way. The cautery must be used lightly, or its action will be too extensive, and a thick eschar be formed; and if it be used too hot, as is well known, it loses its hæmostatic power. The cautery is not suited for opening the trachea, because the radiation from its hot point introduced into the air-passage would be harmful, and there is some risk of burning its posterior wall; while in adults it is difficult to sever the firm rings with it, and particularly if they are at all ossified, and the loss of substance that an eschar necessarily involves might cause trouble from narrowing of the air-tube. On the other hand, as the use of the knife for this purpose does not cause hemorrhage, it is free from objection. In fat subjects the wound may become filled with molten fat; this is readily removed with a sponge. In addition to the bloodlessness of this mode of operating, Mons. Poinsot claims for it two other advantages —the spontaneous retraction of the edges of the wound, rendering unnecessary the aid of assistants for this purpose, and giving a funnel-shaped opening down to the trachea; and the protection of the wounded surfaces from the contagion of diphtheria. Slight secondary hemorrhage has followed this operation in several cases, but in no case has it been severe, yielding readily to simple treatment. Although the wound gapes widely at first, the resulting cicatrix contracts to a small size, and has not given rise to any unpleasant symptoms in any recorded case. This appears to be one of the most useful applications of this recent addition to the surgeon's armamentarium. It promises to change tracheotomy from an operation which is always anxious and often very trying into a safe and simple proceeding; and we may hope that it will in this way add to the value of the operation by leading to its more frequent and earlier adoption in obstructive diseases of the larynx.—*Lancet*, Feb. 16, 1878.

Irreducible Hernia.

Although surgeons have for many generations been agreed as to the impropriety of interfering by surgical operation with ordinary cases of irreducible hernia, there has been no lack of ingenuity in devising plans for protecting the tumour from injury and for preventing increase of size; but it is not so well known that attempts at reduction without operation have also been occasionally successful. Many surgical observers have recorded instances of irreducible hernia becoming reducible after long confinement in bed or emaciation from illness. Fabricius Hildanus gives an account of a man who was radically cured of an irreducible rupture of twenty years' duration by six months' confinement in bed. Pott, Le Dran, and Arnaud have also recorded similar cases. The latter, imitating Nature's process, accomplished the reduction of a large scrotal hernia, which had

existed from infancy, by confining the patient in bed, by restricting him to a light and spare diet, and by the employment of venesection, calomel, purgatives, and clysters. In the same way the famous Mr. Hey, who practised at Leeds in the last century, succeeded on several occasions. M. Cloquet effected reduction of a large scrotal hernia by means of rest in the horizontal posture and by the application of suspensory bandages progressively diminished in size. Mr. Earle succeeded in a similar instance by means of confinement, low diet, the internal administration of solution of potash mixture, and the inunction of mercury over the swelling. Mr. Bransby Cooper also succeeded with confinement in bed, low diet, the continued application of ice, and, where there was much omentum, by giving, in addition, small doses of blue-pill and tartar-emetic, so as to promote absorption of the fat; and still more recently Mr. Erichsen—who seems to credit Mr. B. Cooper with being the first to employ this method of treatment—has, while following out the rest of the treatment, advantageously substituted iodide of potassium for the blue-pill and tartar emetic. Many years ago Mr. Hilton succeeded in reducing a large scrotal hernia in a young man, which had been irreducible for six months, by keeping the patient in a horizontal posture, forbidding him to drink more than half a pint of fluid in the twenty-four hours, by the constant application of ice to the tumour, and by the frequent internal administration of sulphate of magnesia and colchicum wine.

The following case is reported from the practice of Mr. MAUNDER at the London Hospital, similarly successful.

J. H——, aged thirty-five, a tram-car conductor, was admitted on May 18th, 1877, with a scrotal hernia on the right side. There was impulse on coughing. Five years ago he ruptured himself in applying the brake of a car. The hernia was reduced, and a truss was worn. The bowel came down once between that occasion and this, but was properly reduced.

Immediately after admission the patient was placed under the influence of an anæsthetic, and taxis was employed in vain. When Mr. Maunder saw the case he advised rest in bed, with the thighs flexed and comfortably supported on a pillow; a crutch pad to support the scrotum with its contents, in order to favour the return of blood by the omental veins; and the application of an ice-bag. The *rationale* of the treatment was explained to the patient. He was enjoined to eat and drink as little as he could possibly do with, so as to reduce himself, and promote absorption of the fat of the body generally, but especially that contained in the protruded omentum. A saline aperient was also given often.

In about ten days the tumour began to diminish in size, and was pushed up higher into the canal by a repetition of taxis, the intestine being now reduced. On June 12th the patient was again submitted to taxis, with partial success. He was getting tired of bed and of the treatment, but was encourged to submit a little longer. On July 10th reduction was again tried, with success, and a truss was ordered.

In some remarks on this case, Mr. Maunder laid stress on the importance of trying all reasonable means to reduce a hernia, and said that he had learned this particular plan from a former surgeon to Guy's Hospital. He had lately had an equally successful case in private practice, but at the expenditure of much less time. Unfortunately the process was often a slow one, and patients frequently tired of the restriction placed on their diet.—*Lancet*, March 16, 1878.

—

Case of Imperforate Anus.

The following case is reported by Dr. TASSIUS (*Betz's Memorabilien*, xxii. Jahrg., 12 Heft.). An infant, three weeks old, was found to have no anal orifice, and the feces were passed in a semi-fluid condition, with great straining,

through a small opening about the size of a straw, situated on the floor of the vagina immediately behind the fourchette. The abdomen at the same time was tender and distended. A trocar and canula were passed from this opening to the usual site of the anus, and the skin perforated, and the passage thus made was dilated with catheters of various sizes. A large quantity of fluid fecal matter and of gas was discharged rapidly by this orifice, with evident relief to the infant. But, after seven days, probably through neglect on the part of the attendant, things had returned to their former condition. A second and similar attempt at relief also proved unsuccessful. Hereupon the perineum was divided throughout its extent from the abnormal orifice in the vagina to the site of the anus; the end of the gut was dissected out, and secured in its proper position. The opening in the gut was found to consist of a cartilaginous ring of the size of a straw, while otherwise the rectum was in a normal condition. The child made a good recovery, and is now six years of age. The evacuations pass by the natural way, and the presumed absence of a proper sphincter ani muscle cause no inconvenience.—*London Med. Record*, March 15, 1878.

—

Congenital Tumours of the Sacro-Coccygeal Region.

In the *Progrès Médical* for 1877, Nos. 32 and 33, MM. BRISSAUD and MONOD describe a tumour of the coccyx which was found in a child a week old. The mother, a woman aged 29, had previously borne two healthy children; she had not felt any disturbance during her pregnancy. The child was thin and of miserable appearance; the tumour, which was of the size of an orange, was attached to the lower part of the spinal column by a triangular ligament, in which the coccyx lay. It was covered by a thin red skin, and felt like a small flaccid sac. There was distinctly no connection between its interior and the spinal cord. On section, the skin was found to be inseparably united with the subsequent connective and adipose tissue. Within this lay a somewhat dense membrane, then a vascular medullary membrane, and inside all a large cyst. This was lined with ciliated epithelium, outside of which was a layer of pale muscular fibres, closely united with the firmer tissue of the wall. This consisted internally of sarcomatous tissue, and of a firmer outer layer of a more fibrous substance; scattered through it were connective-tissue fibres, and it contained insulated portions of cartilage, lamellæ of bone, and small cysts with partially calcified epithelial cells.

They also describe a tumour of the coccyx, which, having been at birth as large as a prune, became painful at about the fourth year, and grew with increasing rapidity from the month to the twenty-first year. It now formed an enormous pyriform appendage, reaching from the end of the coccyx to a popliteal space; it was joined to the coccyx by a pedicle about two inches broad, but was not intimately connected with the bone. The tumour consisted of—1, two large cysts, containing a thready, synovia-like fluid, and lined with flattened epithelium; 2, numerous small cysts, with ciliated epithelium; 3, a fibrous wall, with one large and numerous small pieces of bone, periosteum, and cartilage.—*London Med. Record*, Feb. 15, 1878.

—

The Use of Tayuya in Phagedœnic and Scrofulous Ulcers and Blennorrhagia.

In the *Giornale Italiano delle Malattie Veneree e della Pelle* (1877), Dr. PASQUALE PIROCCHI states that he has used dilute tincture of tayuya (10 parts in 30 or 40 of water) as a local application in phagedænic and scrofulous ulcers, and in blenorrhagia. The ulcers became modified very soon after the application, twice or thrice in the day, of charpie steeped in tincture of tayuya; while in two cases of blennorrhagia the daily injection of the same remedy did not produce

a favourable result. The author hence regards tincture of tayuya as a valuable topical remedy, capable, perhaps, of competing with the actual cautery in the treatment of phagedænic sores. He thinks that the tincture of tayuya, being a tonic and astringent, reduces suppuration in the soft parts, stimulates granulation, and facilitates cicatrization. As regards gonorrhœa, he does not consider tayuya superior to the balsams and other remedies ordinarily used.—*London Med. Record*, Feb. 15, 1878.

—

Non-Inoculability of the Semen in Syphilis

Dr. MIREUR, of Marseilles (*Annales de Dermatologie et de Syphilographie*, No. 6, Tome viii. 1877), gives an account of his researches on the above subject.

A syphilitic patient, aged 26, with characteristic indurated cicatrix of primary sore, multiple adenitis, papular roseola, mucous patches of mouth and anus, etc., and who had not undergone any specific treatment, consented to supply the material for inoculation. The semen obtained from this man was immediately inoculated on four healthy persons quite free from syphilitic antecedents. All the instruments used were new, and perfectly clean.

The first two subjects were inoculated by three punctures made on each arm with a needle. On the third patient, a small blister was raised by means of ammonia on the right leg. Charpie dipped in the semen was then applied to the denuded dermis, and carefully kept in place for twenty-four hours. In the fourth case the epidermis at the upper and outer part of the left arm was removed by scraping, and three small transverse incisions were then made. Charpie thoroughly soaked in the seminal fluid was kept in contact with the wound for thirty-six hours.

The results of Dr. Mireur's experiments were the following. In the first two cases the punctures gave rise, a few hours afterwards, to slight local inflammation; but next day all inflammatory action had disappeared, and only a small ecchymotic and scarcely appreciable mark at the site of each puncture was left. All traces disappeared about the fifteenth or sixteenth day. In the other two cases there were not even signs of local irritation, and the wounds rapidly healed. All four persons were minutely and regularly examined every day for more than six weeks, and were kept under attentive observation for about six months. During this time not the slightest sign of syphilis, either local or constitutional, appeared in any of them. Two of the patients who were examined again, about a year after inoculation, confirmed, by their good state of health, the absolutely negative result of the experiment.—*London Med. Record*, Feb. 15, 1878.

—

Osteo-Sarcoma.

The proper line of treatment to adopt in cases of osteo-sarcoma is one of great interest to surgeons. The fear of speedy recurrence of the growth when the diseased part only of the bone is removed, and the great severity of the operation for the removal of the whole bone when, as so often happens, the lower end of the femur is attacked, make this question one of as great difficulty as importance. In a recent *brochure* Mons. Poinsot has brought together 51 cases in which amputation through or above the diseased bone has been practised; and from an analysis of these cases he has been led to decide in favour of the higher operations, performed as early as possible. But, curiously enough, these cases show a greater frequency of local recurrence after the high operation than after the low one, and the recurrence was as rapid in one case as in the other. It is hardly possible to doubt that a larger number of cases would give a different result. Unfortunately, we are in the dark as yet on some points in the life-history of these and similar tumours.

Why do some recur locally, and not infect the system? Why do others rapidly infect the system? Why do some recur in the lungs, while others are only reproduced in the same tissue as that in which they originate? We need an answer to such questions as these before we can hope to have the line of treatment precisely marked out. Poinsot also deals with the difficulty sometimes experienced in diagnosing between "white swelling" and osteo-sarcoma, and he gives some details of 37 cases in which eminent surgeons have been led into error. Tumours are often stated to date from some injury; their course may be slow, and even interrupted in the manner so common in white swelling; the joint surfaces, which are generally preserved and allow of free movement, may be invaded, and then the neoplasia, growing in the direction of least resistance, will distend the synovial pouches, and closely simulate the masses of granulation tissue in "white swelling." Inflammatory symptoms, and even suppuration, have been noticed with sarcoma, but if, in these cases, the surgeon makes an incision, he at once discovers the true condition of the part from the very free arterial hemorrhage which occurs. In the same way, a puncture with a grooved needle may be most useful for diagnostic purposes.—*Lancet*, March 2, 1878.

—

Round-celled and Spindle-celled Sarcoma of the Left Scapula and Humerus.

The *Giornale Veneto di Scienze Mediche* for September, 1877, contains the report of a case related by Dr. SCAINI to the Medical Society at Friuli.

The subject was a countryman, aged 24, of healthy constitution, who, while working in Hungary in 1875, perceived a small tumour at the insertion of the left deltoid muscle into the humerus. The tumor was hard and painful, both spontaneously and on pressure; it was movable, and did not implicate the skin. Various remedies were applied, but without effect, the tumor continuing to increase in size. In January, 1877, when the patient was admitted to hospital under Dr. Scaini's care, it embraced four-fifths of the circumference of the left humerus; viz., the whole external region, the posterior, and a great part of the internal, leaving free only the part corresponding to the brachial muscle. It reached upwards to the junction of the upper and middle thirds of the deltoid muscle, and downwards as far as the middle of the humerus. It was of almost circular form, projected in the form of a fungus growth about an eighth of an inch above the level of the surrounding healthy skin, had a blackish aspect, produced by the scars left by the caustics that had been applied, and was divided into numerous lobules, soft to the touch. Under the eschar it had a grayish aspect, and bled on the slighest touch. When moved laterally, or upwards and downwards, it seemed to be scarcely adherent to the bone; during these movements the most painful part appeared to be its postero-superior portion, corresponding to the humeral attachment of the latissimus dorsi muscle. This portion was harder than the rest, and from it there passed under the spine of the left scapula a prolongation of the tumour, which occupied the whole of the infraspinous fossa; it was covered with reddened tense skin, which was livid near the shoulder-joint, but did not show signs of degeneration. The tumour here was not movable like that of the arm, but was very painful, and to the touch appeared elastic and semi-fluctuating: the presence of pus was suspected, but on introducing one of the needles of Dieulafoy's apparatus, only a few drops of blood escaped. The patient suffered much, and his nutrition was considerably impaired.

The case was treated by disarticulation at the shoulder-joint, by an interior and anterior flap, no other method being possible. The operation was undisturbed by any accident, and recovery soon took place. The author attributes

the rapidly favourable termination to the use of salicylic dressings, which he considers a sure preventive of erysipelas, pyæmia, and other consequences of severe operations.—*London Med. Record*, March 15, 1878.

Muscular Atrophy consequent on Diseases of Joints.

Dr. E. VALTAT, after a great number of clinical observations and experiments on animals, draws the following conclusions. In the majority of diseases of the articulations, the nutrition of the muscular system is affected. From the commencement of most of the varieties of arthritis a considerable atrophy is observed, and a more or less marked paralysis of the muscles destined to the affected joint. This atrophy cannot be attributed to functional inactivity, nor to inflammation of the muscles, of the nerves, or of the spinal cord. Most probably it is produced by reflex action. It is very important as a functional disorder; it increases generally as long as the disease of the joint lasts; and while sometimes it is only temporary, in the great majority of cases it persists after the cure of the arthritis, and it remains then as the sole obstacle to the re-establishment of motion. It has but slight tendency to spontaneous cure. Sometimes the muscles, under the influence of exercise alone, may recover their strength and size; but this happy termination is rare, always slow, and generally incomplete. The atrophic lesions are rapidly and easily cured by the employment of weak and permanent constant currents, such as M. Le Fort has described, or, still better, by the combined use of these and faradization.—*London Med. Record*, Feb. 15, 1878.

Midwifery and Gynæcology.

A Case of Hour-glass Contraction of the Uterus before the Expulsion of the Fœtus.

Dr. A. H. GOELET, of New York, reports (*North Carolina Medical Journal*, March, 1878) the following case of this rare condition. On the 24th of July last, I was called to Mrs. R., who had engaged me to attend her in her third confinement, which she expected about the last of September. She was consequently about 6½ months advanced. I found her in premature labour, the os fully dilated, and the membranes still intact, but could detect no presenting part. The pains being very feeble and infrequent, 25 gtt. Squibb's fluid extract of ergot were given. As the pains increased there was some hemorrhage, and I ruptured the membranes to expedite the labour. An enormous quantity of amniotic fluid was discharged. Another examination at this time found the os in the same condition as before, and it was not until the whole hand was introduced into the vagina that the uterus was discovered to be contracted in the centre, the fœtus above the constriction, and a finger projecting through. This was a condition I never met with before, and I was in some doubt at first as to the proper course to pursue. But, since the patient was in danger from the hemorrhage which still continued, the indication was clearly the immediate extraction of the contents of the uterus. With great difficulty one finger was forced through the constriction, then another, and after considerable search a foot was found, but having only two fingers with which to grasp it, very little traction could be used. Finally, one foot (for the other could not be found) was dragged down and out of the vulva, but when the breech of the child presented against the constriction it required all the force that

could be exerted with both hands, to bring it through, and the same was the case as the shoulders and head came down in succession. The delivery of the placenta, though less difficult, required force.

—

Delayed Ligature of the Funis.

Dr. BUDIN, while *interne* at the Maternité, came to the conclusion from his investigations that it is better not to tie the funis until one or two minutes after the complete cessation of the pulsation. By tying it immediately after birth we, in fact, prevent the child deriving about ninety-two grammes of blood from the placenta. Now, as Welcker, Bischoff, and others have shown that the weight of the blood of a new-born infant amounts on a mean to 270 grammes, or about a thirteenth part of the weight of the body, abstracting ninety-two grammes may be considered as equivalent to bleeding an adult of the weight of sixty-five kilogrammes to the extent of 1764 grammes. Dr. Hélot, Surgeon to the Hospice at Rouen, has since examined the subject with the intention of showing whether the infant really acquires this blood, by counting the globules of blood by Hayem's method, and by weighing the infant immediately after birth before dividing the cord, and then again when the cord has ceased to beat. By these means he found that there was an increase of 209,632 globules, and an addition to the weight of the child of fifty-three grammes. He therefore thinks that in normal cases rapid ligature of the cord should be entirely rejected, this operation not being performed until some instants after respiration has been completely established.—*Med. Times and Gaz.*, March 23, 1878, from *Gaz. des Hôp.*, March 14.

—

Cæsarean Section in Pregnancy, with Left Ovarian Tumour.

In the *Deutsche Medizinische Wochenschrift*, February 2, 1878, D. LAHS, of Marburg, relates the following case: F. S., a countrywoman, aged thirty-three, mother of two children, of which the youngest was three years old, remarked, for the first time a year and a half before, a tumour in her left pelvic region. Twelve months later the catamenia ceased, and she became pregnant. Towards the end of the seventh month of pregnancy the bladder and rectum performed their functions with much difficulty. On examination, July 12, after she had presumably been in labour eight days, Dr. Lahs found the abdomen enormously distended. Percussion-sounds were dull everywhere, except in the immediate vicinity of the ribs. Fluctuation could be detected all over the abdomen. Examination per vaginam revealed the presence of a firm immovable tumour filling the entire pelvic cavity. Dr. Lahs diagnosed a left ovarian tumour adherent to the pelvic walls, filling the pelvic cavity, and rising in part above the pelvic brim. A prolonged attempt was made under chloroform to push the tumour out of the pelvis. It was ineffectual.

Dr. Lahs proceeded to perform the Cæsarean section. After the delivery of the child, the placenta was easily removed. The uterus did not contract, possibly on account of the lengthened chloroform narcosis the patient had undergone. Dr. Lahs, therefore, maintained pressure for some time upon the placental site, which had been divided in the incision into the uterus. The uterus was sewn up with three strong silk sutures. On the tightening of the sutures the uterus contracted, and enabled the ovarian tumour to be seen, firmly adherent to the pelvis and abdominal contents. The abdominal cavity was cleaned out with carbolic solution, and the abdominal wound was closed. The patient recovered from the chloroform narcosis, and sank, collapsed, twenty-four hours later. There was no necropsy.—*London Med. Record*, March. 15, 1878.

A Case of Extra-Uterine Fœtation.

In a paper published in the *France Médicale* M. Weiss relates a case of extra-uterine fœtation which had a fortunate termination after expulsion of the fœtus per rectum. The patient was forty years old, and was admitted on May 31, 1877, to the Hôpital Lariboisière, under the care of M. Proust. She had had a normal pregnancy at the age of twenty-five, and had enjoyed good health since that time. In May, 1876, she began to suffer from slight abdominal pain, but general health was not much disturbed, and menstruation continued regular. About the end of 1876 she was attacked, without appreciable cause, by a metrorrhagia, which continued without cessation until February, 1877, but was not severe enough to oblige her to keep her bed. At the end of this metrorrhagia there was a cessation of menstruation for between two and three months, until the end of April, when severe abdominal pain came on, accompanied by a sero-sanguineous discharge. She was able, however, to attend to her work, and came on foot to the hospital.

In the hypogastrium was found a hard irregular tumour, reaching about three fingers' breadths above the pubes, and tender on pressure. It did not occupy exactly the median line, but was inclined to the right, and appeared quite independent of the uterus, which lay in front. Vaginal touch revealed the existence of a retro-uterine tumour, irregular and made up of hard and of soft portions, rather tender on pressure. The uterus was pushed forwards against the pubes; the cervix was not patulous nor altered in consistence. The limits of the tumour could not be reached per rectum. There was scarcely any fever, and no rigors or vomiting. The diagnosis made was that of retro-uterine hæmatocele, as being the most probable condition. The idea of extra-uterine fœtation was not even suggested.

The patient continued in fair condition until June 10, when some pus was discharged by the rectum, and the same discharge continued on successive days, but in small quantity. On June 15 she had the sensation of some foreign body in the rectum, and a mass was found to be presenting at the anus, which proved to be the leg of a fœtus. Slight traction detached it from the rest of the body, which was engaged in the rectum. On that and the following day the rest of the fœtus was extracted, with the exception of the head, which could not be discovered. It was putrefied, and extremely fetid; its size appeared to correspond to an age of between four and five months. Immediately after the extraction, an opening into the fœtal cyst was felt, large enough to admit the finger, but too far from the anus to allow the cavity to be explored. The abdominal tumour had completely disappeared, as also had the retro-uterine tumour. Disinfectant injections into the cyst, by means of a tube passed through the fistulous opening, were employed, and the patient rapidly became convalescent.

The author remarks on the difficulty of diagnosis in this case, no definite signs of pregnancy having existed, and especially on the absence of any change in the consistency of the cervix, a sign rarely absent in such cases. He considers that the pregnancy probably commenced in December, 1876, at the time when the metrorrhagia began, and that the fœtus died at the commencement of May, when the severe abdominal pain came on. The fortunate issue of the case he attributes to the small size of the fœtus, which allowed it to be extracted through the rectum without any great difficulty; the general mortality in cases so terminating being, according to Parry's statistics, as high as thirty-five per cent., as against twenty-five per cent. in those in which evacuation takes place through the abdominal wall.—*Obstetrical Journal of Great Britain*, April, 1878.

Liquor Amnii and its Origin.

In the *Archiv für Gynækologie*, Band xi., Heft 2, Dr. L. PROCHOWNICK says that the human amniotic fluid contains urea from the sixth week to the end of pregnancy; that it is derived from the skin and kidneys of the fœtus; further, that the quantity of urea increases during the entire pregnancy. A five weeks' ovum contains no trace whatever of urea. Chlorides appear at the end of the third month, and come not only from the kidneys but through the skin of the fœtus. The author concludes that the fœtus is the producer of the amniotic fluid, whose secretion begins in the earliest period of pregnancy. At the end of pregnancy only a trace of albumen can be found. In cases of hydramnion, it is remarkable that the albumen is increased. The extractive matter increases *pari passu* with the absolute amount of fluid. The fats are only found in small quantities, and come from the vernix caseosa. Cholesterin is found by chemical means, but does not appear under the microscope.—*Lond. Med. Record*, March 15, 1878.

—

The Prevention of Puerperal Fever.

Puerperal fever is a disease the ordinary social surroundings of which make its effect, when fatal, perhaps more distressing to the surviving relatives and to the medical attendant than is the case with very many equally dangerous disorders. The removal of a young wife from her husband, of a mother from a family not yet old enough to do without her help—and this as the result of an event natural, commonly harmless, and probably looked forward to as a bringer of joy; the hints that are so likely to be dropped as to the doctor's conduct of the case, and his possible culpability in bringing infection from some one else;—all make this disease one to which social consequences of peculiar importance attach themselves. Its interest to the scientific inquirer is not less, for we have much yet to learn about it. The knowledge that the medical attendant may carry with him the contagium of the disease, and the well-ascertained facts which show that infection from the dead body may produce it, have, with other causes, tended to prevent both post-mortem investigation of the disease and frequent examination of the affected parts during life. Our knowledge of it is thus principally clinical, and therefore incomplete. Hence the great number of different views about it; in this, as in other things, the amount and variety of diverse opinions being in inverse proportion to the amount of definite knowledge of the subject.

It is not our intention here to enter upon any discussion of the varying doctrines that have been held. We shall advert to etiological considerations only so much as is necessary to give weight to the practical precautions they indicate. It happens that the dominant theory at present is one which, if true, gives us hope of being able to greatly hinder the spread and lower the mortality of this formidable malady. We speak of it as the dominant theory, in order that we may not assume that which is not yet universally admitted, not to imply that we think its reign is likely to be transient. It is enough for our present purpose that the theory in question is accredited by the acceptance of many great authorities both here and abroad, and is supported by much evidence; beside the scientific prejudice in its favour, from its being based on the latest, and therefore the largest, knowledge.

The current of opinion, which is now setting so strongly in Germany, and to a great extent in this country, is in favour of the view that puerperal fever is a disease like surgical septicæmia and pyæmia—that it is, in fact, the same malady, entering through a special channel; this channel being either some rent (minute though it may be) of the parturient canal (such as often occurs, especially in first

labours) or veins, the mouths of which have been bared in the separation of the placenta. Thus the greater frequency of the disease in question in first labours is accounted for by this hypothesis. As from wounds we have various degrees of disturbance, known as traumatic fever, septicæmia, and pyæmia, so in the puerperal state we have maladies which may be slight, severe, or fatal. As in the one, so in the other, the symptoms result from an absorption, through the wound, of pyrogenic or phlogogenic matter. Adopting the germ theory in the form so ably set forth by Dr. Roberts, at Manchester, we may say that in the puerperal state slight fever, septicæmia, or pyæmia results whenever the secretions in contact with absorbing surfaces assume such a character that germs will live in them. These mischievous little organisms meet with barren soil in the fresh secretions of a healthy wound. But if these fluids accumulate and decompose, then the germs find nourishment in them, grow and multiply, and, if a way be open, get access to the system. There are, therefore, two ways in which this may be prevented—first, by keeping away (or killing) the germs; and second, by preventing the accumulation of secretions, and therefore the changes in them which make them fit for the little enemies to thrive therein. Professor Lister has successfully aimed at carrying out the first plan; Mr. Callender has attained the end by acting on the second. We shall do well to profit by the teaching of each, and try both to see that no germs get to the patient; and if they should, after all, reach her, to give them no congenial soil: and thus we may hope to prevent puerperal fever.

Let us take first some measures, based upon this theory, which relate to the patient herself. Attention has been drawn by more than one British obstetrician to the value of intra-uterine injections in cases in which feverish symptoms are accompanied by fetor of the discharges. But it is clear that if we accept the views, an outline of which we have been trying to draw, the use of antiseptics after labour must become more extended. There is even a better thing than curing such a set of symptoms; and that is, to prevent the discharge ever becoming fetid or the temperature rising. If the theory we have referred to as dominant be one holding good for all cases, this is within our power. And, further, Olshausen has shown that the introduction of lochia by a catheter into the bladder is followed by cystitis. Kehrer (in an able monograph, a review of which will be found in our first volume for last year) has proved that lochial discharge, apparently healthy, yet possesses a constituent capable of exciting inflammation and fever, and either that the amount or the virulence (probably both) of this constituent increases in the later days of the discharge. If these researches be correct, it is clear that we must not look upon fetid lochia as the only condition calling for antiseptics.

Our German brethren, in this as in many other things, are putting their theory into practice with method, perseverence, and ingenuity. In April last we put before our readers an account of the views and precepts of Fritsch as to this subject. Schülein, in a series of 201 cases, normal and other, washed out the interior of the uterus simply as a prophylactic measure. Münster, in twenty-four cases of labour, either very prolonged or attended with those complications which we know render the patient liable to puerperal disease, practised the same measure, without waiting for symptoms to come on. Of Münster's cases, all recovered perfectly. Schülein comes to the conclusions that these injections, with proper care, are harmless; that they diminish to a considerable extent the frequency of puerperal diseases, and the mortality of them; and that, when used in cases in which the temperature is already high, this treatment is often followed by a considerable fall. He therefore recommends their use both to prevent and cure puerperal disease. These results are most satisfactory, the only objection to

which is, that they are based on but a small number of cases. Schede, beside washing out the uterus, put in, in order to prevent accumulation of secretions, a tube provided with a cross-piece, or with lateral projections at the end, in order to fix it in the uterus; and he tells us that, in some cases in which (he having used it only after severe septicæmia had already set in) the patient died, no ill effects were perceptible from its use. We are quite willing to admit that this may have been a proper measure in Schede's cases; yet we do not think that to put into the uterus something which retains itself there by pressure against the walls of that organ is a procedure to be recommended as likely to prevent disease. Schücking has taken much pains in devising a means of applying a rigidly antiseptic treatment to the genital canal. His apparatus consists of a metal tube, with numerous lateral openings, wrapped round with several layers of gauze. This is put into the vagina, so that the end of the tube lies in the os uteri. The gauze is soaked in an antiseptic solution, and its function is to prevent the holes of the tube from getting stopped up by coagula, and to insure that the antiseptic shall be applied to an extensive surface. The tube is connected with an irrigating apparatus, so that a slow, steady stream of the antiseptic solution used shall flow through the tube, percolate the gauze, and so bathe the genital passage. The patient lies on a mackintosh, or some other arrangement, serving to prevent the wetting of the bedclothes. The tube is removed every twenty-four hours, the gauze changed, and the vagina well syringed with an antiseptic. Schücking's plan is ingenious, and in cases in which the vagina has been wounded, or sloughing is to be apprehended, we should think it highly useful. But in ordinary confinements it seems to us too troublesome and disagreeable for routine use; and we question whether ordinary syringing with an antiseptic does not effect all that is required in a simple case.

A practical conclusion of some value, if correct, which Kehrer draws from his investigations, is this: that in cases in which, in the later days of the lochial discharge, symptoms arise making one think that a bit of placenta or membrane has been retained, and therefore the uterine cavity should be explored. It is better not to do this at once, but to remain content with antiseptic injections, until any rents that may be present in the genital canal have completely healed; for if done before, these wounds, then closed only by granulation tissue, will be torn open again, and thus a fresh surface exposed to absorb the virulent lochial discharge.

Wishing to make as little painful as possible a measure which he thinks very valuable, and also to enable the medical man to avoid all contact with the lochia, Dr. Chamberlain has had constructed for the purpose of intra-uterine injection a tube of toughened glass. It is fifteen inches long, five-eighths of an inch thick, rounded at the free end, bent at a curve convenient for introduction, and perforated with holes so arranged that some open at each surface. This tube is inserted into the vagina without need of a guiding finger. This canal is washed out, and then with a little manœuvring (which in practice, Dr. Chamberlain says, becomes very easy) the point is slipped into the cervical canal and pushed up to the fundus. The uterus can thus be thoroughly irrigated without any contact occurring between the medical man and the secretions of the patient. Judging from the description, this seems to us a most useful invention, sound in principle and safe in practice.

The antiseptics used by the authors from whom we have quoted were either carbolic acid, in solution of 2 to 5 per cent. strength; salicylic acid, 1 to 2 parts per 1000; or sodic sulphite, in a 10 per cent. solution, with 5 per cent. of glycerine.

The increased liability to puerperal disease which follows protracted labour and

mismanaged third stage is well known. To discuss these points would take us so far into an entirely different subject that we will content ourselves with mentioning them.

Space forbids us here to go on to those precautions, designed to prevent the access of contagion, which relate to the surroundings of the patient. We may possibly do this in a future number. That part of the subject with which we have been dealing has been taken first, not because it is more important, but because newer, and therefore probably less familiar to our readers.—*Med. Times and Gaz.*, Feb. 9, 1878.

—

Tumour of the Clitoris removed by Paquelin's Thermo-cautère.

At a late meeting of the Philadelphia Obstetrical Society (*Am. Journal of Obstetrics*, Jan. 1878) Dr. ALBERT H. SMITH showed a specimen of tumour removed by Paquelin's thermo-cautère. The tumour, which was about the size of a large walnut, was a vegetative excrescence, the pedicle of which involved the tissues surrounding the base of the clitoris. The patient, who was admitted to the Women's Hospital for operation, was married, forty years of age, and three months pregnant. She made application for treatment on account of the constant recurrence of violent paroxysms of pain in the base of the tumour, which prevented her sleeping, and, resisting the impression of anodynes, were steadily exhausting her. Her pregnancy being no contraindication, but rather an additional urgency to its removal, from the danger of the continued pain setting up an abortive effort in the uterus, it was decided to remove it at once, which Dr. Smith did with the platinum knife of Paquelin's apparatus. The removal was accomplished with great rapidity, the tumour being drawn forward forcibly by a vulsellum, which included in its grasp the considerably enlarged clitoris, making very tense the pedicle of skin and connective tissue, through which the knife speedily cut its way, being carried deeply enough to remove every portion of indurated tissue involved in the morbid growth, extending very closely upon the urethral meatus. At one stage of the process, the knife being raised nearly to a white heat, cut too rapidly, and a profuse hemorrhage burst forth from the very vascular tissues around the clitoris, and the dorsal artery, of unusual size, spurted out as large as a small bird's quill. The knife was immediately cooled down below a red heat, and pressed upon the bleeding vessels, when the hemorrhage instantly stopped. The slough from the burned surface completely separated in about ten days, leaving a healthy granulating surface, from which there was at no time any hemorrhage. The ulceration healed promptly, complicated by a slight irritation of the urethra, which soon disappeared. Four weeks after the operation there had been no return of the pain which had been so violent in the seat of the tumour, and the patient was perfectly comfortable, her pregnancy advancing undisturbed.

Dr. Smith exhibited the knife to the Society, showing its admirable facility of management, and its applicability to most cutting operations when hemorrhage is feared, and where union of the cut surfaces by adhesion is not required. He had used it with great satisfaction for the removal of superficial growths, especially epithelial cancers. The simplicity of the instrument, and the readiness with which the degree of temperature can be controlled, and especially the persistence of its action, give it great advantages over the galvano-cautery wherever the form of the knife makes it practicable. So far, only a short straight knife has been adapted to its use, which necessitates its being held perpendicularly to the surface, into which the incision is to be made; so that for such operations as the excision of the cervix uteri, where the mobility of the uterus is not sufficient to allow it to be drawn by volsella to the vulvar opening, it cannot take the place of

the constricting wire of the galvano-cautery. No doubt some additional forms of the knife will be added as the demands for them increase.

Some precautions are necessary in the use of the instrument, as Dr. Smith has found from experience. The knife should be brought nearly to a red heat in the alcohol flame before projecting the vapour of benzoline into it from the bottle, otherwise the rapid evaporation will cool the knife so that the flame cannot raise its temperature to the point of igniting the vapour, and the operator is foiled in his attempt to get up a red heat. The bottle of benzoline (which by the way should be of the best possible quality) should not be filled more than half full. If the fluid reaches nearly to the end of the metallic tubes in the cork, it may be driven into the rubber tubing leading to the knife, and be forced out of the opening in the knife instead of the aerated vapour. If this should take place the excessively inflammable nature of the benzoline fluid would render probable a serious accident. In operating in the neighbourhood of the face, under etherization, great care must be used not to bring the red-hot knife within range of the vapour of ether, as it will ignite it instantly, and the whole mass of the ether applicator, whatever form it may have, as well as the hair of the patient saturated with ether, will be in a flame. Dr. Smith had this happen in one case in an operation for removal of an epithelioma from the cheek, and has seen it also occur in the hands of another physician when the operation was upon a fungoid growth of the breast, in which the knife was not within a foot of the paper cone inclosing the ether towel. Fortunately, in both these cases the fire was extinguished instantly, before any injury occurred.

In cutting with the knife the tissue should be kept tense upon either side of the line of incision, when the knife will make its way almost as rapidly as a bistoury. If it should be cutting too rapidly, and a hemorrhage should occur, a less rapid compression of the hand-ball which supplies the vapour will cool it down. When a large vessel is opened, or is known to pass through the line of incision, by pressing the knife, reduced to a *black* heat, firmly upon the cut surface, a deep scorching of the tissues is produced, which will control hemorrhage completely at the time and prevent its recurrence at the after-separation of the slough. The prospective range of usefulness of this knife in such operations as already mentioned, as well as in the opening of deep abscesses, the incision of carbuncles, and other similar purposes, seems to give it a very important position among the mechanical appliances of modern surgery.

—

The Faradic Treatment of Uterine Fibroids.

Dr. J. T. EVERETT, of Sterling, Illinois, reports (*Am. Journal of Obstetrics*, Jan. 1878) nine cases of uterine fibroids treated by the faradic current, and from a review of these and other cases he presents the following conclusions:—

1. The faradic current, if judiciously used, is equally potent to produce uterine contractions as the preparations of ergot.

2. It is more easily controlled, can be begun or discontinued at a moment's notice, and the dose can thus be more judiciously apportioned.

3. It never disturbs nutrition or the secretions, and does not interfere with digestion.

4. It never produces pain in distant organs, is followed by no cephalic disturbance or nervous shock.

5. It never produces inflammations or other local injury.

—

Injection of Ergotin into the Uterus.

In a discusion in the Surgical Society of Paris (*La France Médicale*) M. DELORE said that subcutaneous injections of ergotin were first employed by Hil-

debrandt in 1872, in cases of uterine fibroma. M. Delore had made injections into the tissues of the uterus itself. He employed one part of ergotin to two of distilled water; he used a speculum, and pierced directly the cervix uteri. In a physiological point of view, the injection of ergotin in the tissues of the uterus produced more intense effects than absorption by the stomach. In his patients he had observed phenomena of different kinds; chills, trembling, bilious vomiting, fainting, troubles of vision, diarrhœa, pain in the kidneys, thighs, legs, abdomen, or head. In two cases he had seen abscesses produced. The patients had been relieved; the hemorrhages had been arrested; in fine, the results had been encouraging.

M. Duplay had employed the method several times, and, while he had not obtained curative effects, he had obtained satisfactory results as to the relief given. He had never seen any accidents.

M. Terrier had made a number of injections into the skin of the abdomen, and had had no accidents. Frequently he had permitted the injections to be made by the husbands of the patients; in these cases the injections had been made not into the subcutaneous cellular tissue, but in the skin itself, and then he had seen small foci of sloughing. These injections had given very good results in hemorrhages, but in one case there was violent contraction of the uterus, and the metrorrhagia was augmented.

M. Panas used the ergotin of M. Bonjean. Ergot contained an extractive matter and a volatile oil; this oil was the active principle.

M. M. See had very satisfactory results with hypodermic injections of the ergotin of Bonjean.

M. Duplay said that M. Vidal, at the Hospital Saint-Louis, treated prolapse of the uterus in this manner, and obtained results which could hardly be explained, except by action upon the muscular fibres.

M. Delore said that ergotin preparations by different pharmaceutists were very different. For these injections ergot could not be employed and continued every day like ergotin.—*London Med. Record*, March 15, 1878.

—

Sounding of the Fallopian Tube.

In the *Berliner Klinische Wochenschrift*, October, 1877, Dr. Biedert relates the case of a young woman who had been married two years and had remained sterile, suffering from dysmenorrhœa. Dr. Biedert found a small os and conical cervix, which he dilated with laminaria tents. On passing the uterine sound on one occasion after the dilatation, he felt it turn suddenly to the left, and about four and three-quarter inches of the sound entered the uterine cavity. It was quite impossible to turn the concavity of the sound forwards, on account of the acute pain which it caused the patient. Dr. Biedert considers that the sound passed into the left Fallopian tube. The patient after this menstruated without pain for the first time in her life, and has since given birth to two healthy children. Dr. Biedert draws the following conclusions: 1. Catheterization of the Fallopian tube is possible. 2. Catheterization presupposes a dilatation of the tube. 3. The dilatation of the tube is probably the result of an impeded or painful flow of the secretions, and especially the menstrual, from the uterine cavity. 4. In such cases, intra-uterine injections are attended with danger. 5. Back flow of the menstrual blood through the widened tube may give rise to perimetric hæmatocele. 6. In such cases, operative removal of the obstruction to the outpour of secretions may prevent the formation of hæmatocele.—*London Med. Record*, Jan. 15, 1878.

A Case of Dermoid Cyst successfully Removed by Ovariotomy.

In a paper read before the Société de Médecine de Strasbourg (*Gaz. de Médicale de Strasbourg*) Dr. KOEBERLE relates a case of dermoid cyst removed by ovariotomy. The patient, a lady twenty-three years old, had always enjoyed good health till the commencement of 1875. At that time, in the second month of her first pregnancy, she was suddenly attacked by violent pain in the hypogastrium, accompanied by colic and vomiting. After lasting two or three hours this subsided completely. At the fourth month a similar attack occurred, and lasted a whole day. The remainder of the pregnancy and the delivery were entirely normal. After delivery the abdomen remained large, and tender at its lowest part. Five months after, on 23d December, 1875, she had another attack of very violent pain, lasting for three days. This was ascribed at the time by Dr. Duboué, of Pau, to be a peritoneal irritation, which appeared to result from a hæmatocele. On 1st January, 1876, a new attack of pain occurred, and lasted six days. The pain was situated chiefly in the right groin, radiating to the thigh and loin of the same side, and, as on the former occasion, was unaccompanied by any elevation of temperature. After this the presence of an ovarian cyst was recognized, but could not be definitely connected with the occurrence of the pain.

An attack of pain again occurred in August, and finally a still severe one towards the end of November. This commenced instantaneously, in consequence of a sudden movement of rotation of the body, and did not cease for twenty days, being accompanied as before by vomiting, cramp, colic, and extreme tenderness of the abdomen, with tympanites. Shortly after each crisis the size of the tumour notably diminished.

For about four months afterwards no further attack of pain had occurred, and the size of the tumour did not perceptibly increase. There was no emaciation, and menstruation was normal. Dr. Koeberlé found the abdominal tumour to consist of an ovarian cyst, of from nineteen to twenty centimetres in diameter, situated chiefly at the left side of the hypogastrium. It reached about four finger-breadths above the umbilicus, and appeared quite movable, though it could not be pushed so far to the right side as to the left. The tumour was fluctuating, and a vibratory thrill could be felt perfectly over the left side, not so distinctly towards the right. Towards the lower and left portion of the tumour could be felt a small, firm tuberosity, of from four to five centimetres in length. The body of the uterus was displaced towards the right, the cervix towards the left.

The diagnosis made was that of a cyst of the left ovary, without abdominal adhesions, and probably dermoid, on account of the good general condition, the slowness of growth, and the firmness of the prominent tuberosity. The attacks of pain suffered by the patient were attributed to a torsion of the pedicle; but it appeared inexplicable why the pain should have occurred on the right side. Although the tumour was moderate in size, and stationary for some months, extirpation was resolved on. It was thought that the attacks of pain were the result of the tumour, and that it was wiser to operate while the condition was good, and avoid the risk of ulterior complications.

Ovariotomy was performed by Dr. Koeberlé on April 10, 1877. An incision, ten centimetres long, laid bare the cyst, which was adherent to the abdominal wall by numerous fibrous bands, very vascular, but not containing vessels of important size. When the cyst was punctured, about a litre of brownish-red thick fluid escaped containing masses of fat, mingled with blonde hairs, of from one to four centimetres in length. The diagnosis as to the dermoid nature of the tumour was thus confirmed. The cyst was detached from its adhesions, which covered nearly three-fourths of its surface, extending as low as the pelvis. The

pedicle consisted of two parts, a broad, fibrous, and vascular band, continuous with the broad ligament on the right side, and adherent to the base of the tumour, and a slender true pedicle, springing from the right side, from five to seven millimetres in diameter, and twisted upon itself as much as two circumferences. The right Fallopian tube was involved in a spiral with it. The broad fibrous band was separated, and the hemorrhage arrested with considerable difficulty. The pedicle was then inclosed in an iron wire attached to a serre-nœud, and the tumour excised. The pedicle was capable of being untwisted, and was of good length. The left ovary was healthy. The patient recovered without any interruption after the operation, the temperature not rising above 37.8° C.

The author remarks that the localization of pain on the right side was explained by the tumour having originated in the right ovary, although this was impossible to diagnose before the operation. The tumour consisted of a unilocular dermoid cyst. The internal cutaneous integument was deprived of epidermis, and the hairs which had covered it were, for the most part, shed. The small hard tumour in the walls of the cyst was also of a dermoid character, and partially covered with mucous membrane. The life of the dermoid tissues appeared to have been destroyed in consequence of the twisting of the pedicle, but the vitality of the envelopes had been preserved, in consequence of the adhesions which had been formed. Deposits of clot existed in many parts over the surface of the cyst.—*Obstetrical Journal of Great Britain*, April, 1878.

Medical Jurisprudence and Toxicology.

Simulation of Fever.

Dr. SELLERBECK (*Berliner Klin. Wochenschrift*, January 21) read a communication before the Society of the Physicians of the Charité in Berlin, on the case of a patient who had for a whole year been in the Charité under treatment for gastric ulcer following an attempt at suicide by means of lye. Throughout its course the case was marked by obstinate vomiting, and the matters vomited were tinged with blood or mixed with blood-coagula. The source of this bleeding could not be determined. Some tenderness and slight bulging were noted in the epigastric region. At various times there occurred, without any assignable cause, exacerbations of temperature, reaching to 102.9° F., with a pulse of 120, and respiration 24. All conceivable means to stop the hæmatemesis were unavailing. The otherwise healthy and well-nourished appearance of the patient led to a suspicion of deception, or, at least, of artificial exaggeration of the symptoms. Even thus it was difficult to account for the high temperatures, which were taken and registered by an experienced and trustworthy nurse. The temperature in the axilla ranged from 100° to 102.7° F., the exacerbations occurring sometimes in the morning, then again in the evening, or lasting some time, as in continued fever. In order to test the matter, when on one occasion the axillary temperature stood at 101.3° F., a thermometer was placed in the rectum, which was found to mark only 100° F., thus proving the existence of trickery somewhere. Acting under this new light it was shown without difficulty, in the presence of the patient, that by means of a rapid rotating movement of the bulb between the thumb and fingers, or between two folds of linen, the mercurial column could be raised, so as to indicate a high fever-temperature. The patient at first totally denied the charge

of practising any deception, but was presently brought to confess that, in order to excite greater interest in her case, she had managed, when the thermometer was placed in her axilla, to inclose the bulb in a fold of her linen, and then, by firmly pressing it between the arm and thorax and rapidly rubbing it up and down, she raised the column to the excessive height observed. When once the deception was discovered, she took a lively interest, after the true manner of hysteria, in the experiments that were made to ascertain the height to which the thermometer could be thus artificially raised. It was as a result found that by tightly inclosing the bulb in a fold of her linen and then rapidly rotating it in a spiral manner, the temperature could be easily raised to 114.8° F. On stopping this rubbing, the column at first fell rapidly to 100° F. to 103° F., where it then remained almost stationary for several minutes. Friction between the bare skin of the arm and thorax had less effect in raising the temperature, owing probably to the cooling effect of the slightly moist surfaces and the greater difficulty of rapid rubbing. Yet even thus, in about three minutes, a height of 108° F. could be attained.

[Until within the last three years the errors of clinical measurements of temperature were supposed to be only on the side of deficiency from improper methods of observation. About that time, Mr. Teale, of Scarborough, reported a case of the excessively high temperature of 122° F. (*Brit. Med. Journal*, March 6th, 1875). The various theories advanced to account for this naturally impossible temperature, such as that of secreted hot-water bottles or mechanical pressure on the bulb, were insufficient. Schliep subsequently, in another case, hit upon the explanation that it was possible to raise the temperature by rubbing the thermometer bulb between the thumb and fingers. Deception is specially easy in this way with self-registering index thermometers. But the foregoing seems to be the first recorded case where the patient successfully simulated fever by this means, and also reproduced in a striking manner the symptoms of increased frequency of the pulse respiration, and then acknowledged having done so.—*Rep.*]—*London Med. Record*, March 15, 1878.

Poisoning by Inhaling Dust containing Chrome Yellow.

LEOPOLD (*Vierteljahresschrift für Gerichtliche Medicin*, Band xxiv.) reports five cases of this form of poisoning, one of which proved fatal. The patients were employed in weaving cloth coloured with chrome yellow (chromate of lead) which was quite loosely applied to the thread, so that a portion of the pigment was easily detached and became diffused throughout the air of the room. The patients were affected with a yellow-coated tongue, yellow sputa, loss of appetite, *malaise*, in some cases vomiting, pain in the region of the stomach and umbilicus, obstinate constipation, and debility. The feces were yellow. These symptoms disappeared in a few weeks after the removal of the cause, except in the case of an infant nine weeks old, who died six or eight days after the beginning of the symptoms, which, however, did not appear until about three weeks after exposure to the infected atmosphere. The symptoms in this case were fever, restlessness, several yellow-fluid stools daily, redness of the skin over the chest and abdomen, parched lips, and, just before death, short respiration.

After death there was found inflammation and perforation of the stomach, the same appearances which were seen in two cases previously reported by Dr. von Linstow, caused by ingesting chrome yellow. None of the poison could be detected in any of the organs except the lungs.—*London Med. Record*, March 15, 1878.

CONTENTS.

Anatomy and Physiology.

The Physiology of the Centrum Ovale and Internal Capsule. By MM. Franck and Pitres 193
The Condition of the Urine in Sucklings. By Cruse 194

Materia Medica and Therapeutics.

The Action of Lactic Acid. By Dr. A. Auerbach 194
The Physiological Action of Chlorhydrate of Pilocarpine. By Dr. Demetrius Kerlea 195
The Physiological and Therapeutic Action of Cinchonidine. By Ferdinand Coletti 195
The Excretion of Mercury. By E. W. Hamburger 196
The Hypodermic Injection of Chloroform. By M. E. Besnier 196
Hypodermic Injections of Digitaline. By Dr. Gubler 196

Medicine.

The Use of Salicylate of Soda in the Febrile Diseases of Children. By Dr. Hagenbach 197
The Treatment of Variola by Painting with Iodized Glycerine. By Dr. Pioch . . 197
The Treatment of Zona by Topical Applications of Perchloride of Iron. By Dr. Amedee Mercier 198
The Treatment of Diphtheria by the Balsams. By Dr. Trolong du Rumain . 198
Carbolated Camphor in Diphtheria. By M. Soulez 198
Reversed Writing in Brain-Disease. By Dr. Buchwald 198
The Telegraphic Writer's Cramp. By M. Onimus 200
An Early Symptom of Tabes Dorsalis. By Prof. C. Westphal 202
The Treatment of Chronic Throat Catarrh with Nitrate of Silver. By Dr. Dawosky 204
Hysterical Paralysis of the Vocal Cords. By Prof. Gerhardt 204
Abscess of the Lung. By Dr. Leyden . 205
Pneumatic Treatment of Aortic Regurgitation. By Dr. Fenoglio 206
Thrombosis of a Coronary Artery. By M. Laveran 207
Diagnosis of Thrombotic Occlusion of One of the Coronary Arteries. By Dr. A. Hammer 208
Treatment of Gastralgia by the Internal Stomach-douche, etc. By Dr. Malbranc 209
Use of Soft Soap in Glandular Affections. By Dr. Kappessar 211
Pathological Histology of Lupus Erythematosus. By Dr. Stroganoff . . . 212
Wilhelm on Erythema Nodosum . . 212

Surgery.

Carbolized Gut as a Surgical Dressing. By Dr. Flashar 212
Injuries of the Scalp. By Mr. Erichsen . 213
Extravasation of Blood on the Dura Mater. By Mr. Erichsen 214
Cerebral Blepharoptosis. By Dr. Landouzy 215
Diphtheritic Inflammation of the Conjunctiva. By Dr. Hans Adler . . . 215
Keratoplasty. By Prof. Gradenigo . . 215
The Action of Chlorhydrate of Pilocarpine in Certain Affections of the Eyes. By Dr. Alexandroff 217
The Causes of Glaucoma. By Drs. Stilling, Schmidt-Rimpler, Ad. Weber, Hermann Pagenstecher 217
Drainage of the Eye by Wire Seton. By Wecker 218
Puerperal Amaurosis. By Dr. F. Weber . 219
Acute Symptoms from Accumulation of Cerumen in the Ear. By Dr. F. M. Pierce 219
Discharges from the Ear. By Prof. Joseph Gruber 220
The Inspection of the Naso-Pharynx from the Nostrils. By Zaufal 222
Bloodless Tracheotomy. By Mons. G. Poinsot 223
Irreducible Hernia. By Mr. Maunder . 223
Case of Imperforate Anus. By Dr. Tassius 224
Congenital Tumours of the Sacro-Coccygeal Region. By MM. Brissaud and Monod 225
The Use of Tannya in Phagedænic Scrofulous Ulcers and Blennorrhagia. By Dr. Pasquale Pirecchi 225
Non-Inoculability of the Semen in Syphilis. By Dr. Mireur 226
Osteo-Sarcoma. By Mons. Poinsot . . 226
Round-Celled and Spindle-Celled Sarcoma of the Left Scapula and Humerus. By Dr. Scalzi 227
Muscular Atrophy consequent on Diseases of Joints. By Dr. E. Valtat . . . 228

Midwifery and Gynæcology.

A Case of Hour-glass Contraction of the Uterus before the Expulsion of the Fœtus. By Dr. A. H. Goelet 228
Delayed Ligature of the Funis. By Dr. Budin 229
Cæsarean Section in Pregnancy, with left Ovarian Tumour. By D. Lahs . . 229
A Case of Extra-uterine Fœtation. By M. Weiss 230
Liquor Amnii and its Origin. By Dr. L. Prochownick 231
The Prevention of Puerperal Fever . 231
Tumour of the Clitoris removed by Paquelin's Thermo-cautère. By Dr. Albert H. Smith 234
The Faradic Treatment of Uterine Fibroids. By Dr. J. T. Everett 235
Injection of Ergotin into the Uterus. By M. Delore 235
Sounding of the Fallopian Tube. By Dr. Biedert 236
A Case of Dermoid Cyst successfully Removed by Ovariotomy. By Dr. Koeberle 237

Medical Jurisprudence and Toxicology.

Simulation of Fever. By Dr. Sellerbeck . 238
Poisoning by Inhaling Dust containing Chrome Yellow. By Leopold . . . 239

Published Monthly, price $2.50 *per annum, free of postage.*

Also, furnished together with the AMERICAN JOURNAL OF THE MEDICAL SCIENCES *and the* MEDICAL NEWS AND LIBRARY *for* SIX DOLLARS *per annum in advance, the whole free of postage.*

HENRY C. LEA, Philadelphia.

THE MONTHLY ABSTRACT
OF
MEDICAL SCIENCE.

VOL. V. No. 6. For List of Contents see last page. JUNE, 1878.

Anatomy and Physiology.

Congenital Absence of One Kidney.

Congenital absence of one kidney is a malformation of more than usual indirect interest. Its causes are as obscure as those of most other developmental errors, but the associated conditions are, in some instances, very curious, and its consequences frequently of great moment to the individual. Whatever may have been their origin, there can be no doubt that the presence of double organs saves us from many of the grave consequences of local disease, and the resulting advantage is strikingly brought out by a study of the effects of the experiment which Nature at times performs, of substituting a single organ, however efficient, for the double organ which she usually provides.

In the current number of Virchow's *Archiv* Dr. BEUMER has collected from various sources forty-eight cases in which one kidney was congenitally absent, and has carefully compared the conditions, associations, and effect of this malformation. This number of cases is considerably greater than any previous writer has collected, and the conclusions drawn from them possess corresponding value. From the circumstances that these cases were all recorded within the last twenty-five years, the condition, although uncommon, is not of extreme rarity. In forty-four out of the forty-eight the kidney was entirely absent; in four it was rudimentary. The organ appears to be absent as often on one side as on the other, since in twenty-one cases the defect was on the right side, and in twenty-two it was on the left. It appears to be of more frequent occurrence in the male than in the female sex, since, of thirty-nine cases in which the sex was mentioned, twenty-six were males, and thirteen were females. It must be remembered, however, in estimating the value of this difference, that the number of post-mortem examinations upon men is larger than upon women, and the condition can only be diagnosed by an autopsy. When observations have been made upon the state of the vessels, they have been most commonly absent. In one case, although the kidney was wanting, a rudiment of the renal artery existed, passing into the cellular tissue. In one case in which a rudimentary kidney existed, incapable of function, the renal artery did not exist. Similar variations in the condition of the ureter have been observed. In most cases the duct was entirely absent; in a few the portion of the ureter adjacent to the bladder alone existed. Of the bladder, one angle of the trigonum was absent in some cases, or the sulcus in which the ureter opens could not be detected on the side on which the kidney was wanting.

In most of the cases in which the kidney was absent the suprarenal body was present. In two cases it appeared to be enlarged, but it is probable that the apparent enlargement was the effect only of the change in shape consequent on the absence of the organ on which it is moulded. FÖRSTER asserted that the suprarenal body is always present in these cases of congenital absence of the kidney, and his statement has been generally accepted as correct. In five of the cases

collected by Beumer, the supra renal body was also absent. In one of these cases, recorded by SCHEIBER, there was a bicornuate uterus, and closure of the anus, the rectum opening into the vagina, between the carunculæ myrtiformes. The subject of this curious malformation lived to the age of thirty years, and died of cerebral tumour.

This coincidence of an arrest of the development of the sexual organs with the defect of the kidney was not unfrequent, and constitutes one of the most interesting teratological points in the study of the malformation. The sexual malformation was present in thirteen cases, nearly a third of the total number; eight were females and five males. Of the latter cases, in one there was simply a diminution in the size of the corresponding vesicula seminalis and vas deferens; in another case the vescicula seminalis on that side was absent, and the vas deferens and testicle were small; and in another the corresponding testicle, with the vas deferens, was absent. In an interesting case recorded by EPPINGER, in which the right kidney and ureter were rudimentary, although the male sexual organs were normally developed, there was, on the right side, a half vagina, an inch and a half in length, and a corresponding uterine cornu, an inch in length. In females, the associated irregularities of the sexual organs were more frequent, both absolutely and relatively, and they were also more considerable. The uterus was the organ which had most frequently suffered. In a few cases the whole of the sexual organs on that side were absent—the ovary, half the uterus, and half the vagina. In several the uterus was unicornuate, the half of a bicornuate uterus being absent on the side of the defect. In some case in which a bicornuate uterus was complete, the vagina was double.

The remaining kidney was, in all the cases, considerably enlarged, and increased in weight and size; and with this increase was a corresponding development of the vessels and ureter. In twenty-six of the cases this enlarged kidney was perfectly healthy, and of these no less than eleven were over thirty years of age. This is a fresh and striking proof of the completeness with which the one kidney can carry on the functions of the two, without suffering degeneration in consequence of its increased work. But in no less than twenty-two of the cases the remaining kidney presented evidence of disease—an equally clear indication that the increased work, although entailing no necessary degeneration, does involve an increased liability to disease. In most of these patients the disease of the kidney was the immediate cause of death. The most common condition was chronic inflammation. It is evident that such disease could be borne for a short time only; and this the details of the cases prove, since in many of them the bladder was completely empty, anuria having preceded death. The frequent occurrence of calculi in the pelvis of the kidney and ureter is worthy of note; they were found no less than ten times. This frequency is a point of much physiological interest in connection with the excretion of uric acid and the functional power of the single kidney. The danger of the condition in such patients is obvious, and is shown by the records of many of these cases, since in no less than five a renal calculus stopping the ureter caused complete obstruction and all the consequences of retention of urine in the kidney, including rapid death.

The pathological aspect of these cases is alone the subject of Beumer's paper, but his facts suggest clinical applications of some importance. To one only of these we may allude. It has been remarked that the morbid state can only be recognized on the post-mortem table, but the association with defects of the sexual organs suggests the possibility of suspecting its existence during life. In many such cases the enlarged single organ might be felt. The occurrence in such patients of evidence of chronic Bright's disease without recognizable cause, or of grave symptoms succeeding those of renal colic, and even the occurrence of renal

colic on the side opposite to that on which there exists a sexual malformation, might in some cases lead to a correct suspicion of the existence of the renal defect.—*Lancet*, April 20, 1878.

The Rouge of the Retina.

M. CAPRANICA (*Annales d'Oculistique*, September and October, 1877) has studied the colouring matter of the yellow bodies which are found in the pigmentary layer of the retina of the frog. According to the researches of Boll, this colouring matter is in all probability the same from which the retinal rouge is resupplied when it has been exhausted by the action of light. The material contained in these yellow globules is insoluble in water and in alkaline solutions, and equally so in acid and neutral solutions; but it is readily soluble in various forms of alcohol, in ether, chloroform, and sulphide of carbon. All these solutions become yellow, with the exception of that in sulphide of carbon, which resembles that of the retinal rouge. The yellow globules give three characteristic reactions. 1. Concentrated sulphuric acid produces instantaneously a splendid dark violet tint, rapidly changing to blue. 2. Concentrated nitric acid produces a greenish-blue solution, which rapidly becomes colourless. 3. A solution of iodine changes their colour to a beautiful green. Exactly the same reactions are obtained from the red and yellow globules which are found within the rods and cones of birds and reptiles. The perfect analogy which exists between the reactions of the two sets of globules shows, almost beyond doubt, that the chemical constitution of the colouring matter in each is identical. M. Capranica has submitted the colouring material to spectroscopic analysis, and he has succeeded in obtaining identical absorption-bands from the two varieties of solutions. The solutions themselves become almost or completely colourless by exposure to daylight. It is a very remarkable occurrence that the colouring matter of these globules presents a complete analogy, both chemical and spectroscopic, with the substance which Hoppe-Seyler and Thudichum have described under the name of luteine, and which has been found in the ovaries of mammalia, in the yolk of egg, in the serum of blood, and elsewhere. M. Capranica has extracted the colouring matter from the ovaries of cows in the shape of microscopic crystals, with which he has obtained the three characteristic reactions of the retinal globules, and the same phenomena of solubility; the spectroscopic appearances are also the same. Precisely the same results are to be obtained from the examination of the yolk of egg.

In short, the researches of Capranica appear to show that even within the egg there exists a colouring material destined to find a home within the retina, and to render the latter sensitive to the most refrangible rays of solar light. The difficulty in ascertaining the exact chemical composition of this substance is great, inasmuch as it is associated with much fatty material, from which it cannot readily be separated. Its sensitiveness to light appears to be in the inverse ratio to the amount of fat with which it is associated. For instance, the yellow of the egg, the most rich in fat, is the least sensitive to light; that of the ovary is the most sensitive, while the reddish-yellow of the retinal globules holds a mid-position.

Although the erythropsine of Boll has a greater photo-chemical sensibility than luteine, yet M. Capranica does not hesitate to assume a very intimate relationship between the two substances, and thinks it will, ere long, be possible to show that the retinal rouge is only a chemical derivative from luteine, from which indeed it differs only by possessing a less density, which may perhaps explain its greater sensitiveness to the action of light.—*London Med. Record*, March 15, 1878.

Laryngostroboscopy.

The actual vibrations of the vocal cords during the production of sounds have hitherto eluded direct observation. According, however, to a publication by Dr. OERTEL, of Munich, their observation is a matter of little difficulty, and is likely to afford instructive information regarding the physiology of the voice. It is only necessary, he asserts, to employ a light sufficiently strong, and to provide an arrangement by which it shall be rapidly interrupted, to render the vibrations visible. The effect of the interruption of the light is to retard the perception of the individual vibration, or rather to prevent their impression on the retina from being modified before it can be perceived. Thus it is possible not merely to observe accurately the vibrations of one of the vibrating cords, but also to compare the vibrations of one with those of the other. The light which is employed must be of the most powerful character, by preference direct sunlight, or the electric or oxyhydrogen light. The interruption may be conveniently produced by a perforated diaphragm revolving rapidly, and at a rate proportioned to the rapidity of the vibrations of the sounding cord. Or it may be interrupted by a tuning-fork, and in the latter case a note should be chosen of the same height as that produced by the larynx under observation, or an octave from it. The interrupting apparatus must be placed between the light and the laryngoscope mirror, or behind this mirror and between it and the observer; the latter is a convenient position for the revolving diaphragm when a little practice in its use has been obtained, and the diaphragm can be turned by the hand at the needful rate for observing the vibrations at a given note.

When a chest-note is uttered, the laryngoscope shows the vocal cords vibrating in their entire extent, and the sharp edge cannot be seen. By the interrupted light these vibrations may be separated into the movements of which they are made up, but are seen to be still vibrations of the vocal cords as a whole. When, however, a falsetto-note is uttered, the vocal cords are seen to be apparently scarcely moved, and with the interrupted light this is seen to be due to the circumstance that the cords are vibrating in sections, two or three, according to the height of the note, the sections being divided by one or two nodal points.—*Lancet*, April 27, 1878.

Albuminuria in Health.

The presence of albumen in the urine, even in very minute quantities, is usually taken as conclusive evidence of such a condition of systemic derangement as deserves to be regarded as disease. Professor LEUBE, of Erlangen, considering the fact that a trace of albumen is occasionally present in the urine of patients who present no other evidence of renal disease, examined the urine of a large number of men presumably in good health, soldiers on regular duty, in order to ascertain whether albumen could ever be detected in the urine of those who presented no other morbid symptoms. He examined the morning urine of 119 soldiers, and found a trace of albumen in that of five, in one a distinct quantity, in the others merely a faint, just recognizable, trace. In each case the midday urine also contained albumen, and in three the amount was larger than in the morning urine. So far the results are not surprising, since they would seem explicable on the theory that these soldiers were suffering from incipient renal disease, which, as is well known, may be unattended by any indication of deranged health. But it was found that albumen was present in 14 soldiers out of 119, whose morning urine had been free from albumen. In all these instances the soldiers had undertaken arduous duty, marches or battalion drill, during the forenoon, but no food or drink had been taken during the exercise. No casts or blood were found in the deposit from the urine. The albumen soon disappeared

with rest. This fact seems to show that in apparently healthy men exertion may induce slight albuminuria. This opinion was supported by an instance in which the urine of a soldier was for two days free from even a trace of albumen, but on the third, after a long battalion exercise, it contained a distinct trace, which had disappeared in two or three hours, and was also absent the next morning. In every case in which albumen was present any indication of disease, local or general, was carefully searched for, but none could be found. The conclusion Leube draws from his observations is that "in the vast majority of cases the urine of healthy persons is quite free from albumen; in rare cases, a slight, but distinct, albuminuria coexists in a completely normal state of system, and is comparatively frequent if bodily exertion precedes the secretion of the urine."

What is the origin of this temporary albuminuria? Our knowledge of the condition of urinary secretion is still too indefinite to permit a satisfactory answer to be given to this question; but it may be explained on either of the current theories of urinary secretion—that of simple filtration of all the urinary constituents through the Malpighian capsules, and that of the specific secretion of the urine by the cells of the tubules. On the filtration theory, the absence of albumen from normal urine is accounted for by supposing that either the walls of the blood-vessels permit the passage of water through them, but retain the colloidal substances, as albumen; or else that albumen passes through the membranes of the Malpighian capsules, and is removed again by the epithelium of the tubules. On the theory that the transpirability of membranes depends on the size of their "pores," Leube fancies that in some individuals these pores may be of such a size as to permit the passage of some colloidal albumen as well as of water: either constantly, under normal pressure; or occasionally, when the abnormal pressure is increased by exertion, On the theory that albumen is pressed out of the blood in the Malpighian capsules, and is removed subsequently by the action of the epithelium of the tubules, the exhaustion of this function of the epithelium, or its inadequacy, affords an equally facile explanation of the observations in question. —*Lancet*, April 6, 1878.

—

Conditions of Growth of Various Organs.

In a communication to the *Marburger Naturwiss. Sitzungsbericht*, 1877 (abstracted in *Centralblatt für die Medicin. Wissenschraften*, February 23), Dr. BENEKE arrives at the following conclusions as the result of numerous observations: 1. The human heart grows relatively quickly during the first months of life, then rather slowly up to the thirteenth or fourteenth year; it then increases very considerably in volume during the development of puberty, and when this is completed, grows more slowly. 2. The "puberty-development" of the heart is to be regarded as a very important phase in its development, in regard both to the physiological and the pathological occurrences of this period of life. 3. In proportion to the length of the body, the heart of the child has normally a volume more than three times less than in the adult (after the completion of puberty). 4. The large arterial vessels are unequally wider in the child than in the adult. They attain their relatively narrowest condition at the time of puberty. The more considerable and rapid the growth in length before this time, the less, as a rule, appears to be the increase in calibre of these vessels. 5. In consequence of these conditions of the growth of the arteries, the relation between the volume of heart and the calibre of the arteries, and consequently the blood-pressure, is quite different in childhood and after the completion of puberty. The blood-pressure in the child's organism must be much less than in the fully developed adult. 6. The pulmonary artery is normally larger than the ascending aorta in childhood. Towards puberty the two vessels are nearly of the same size, and in the adult the

pulmonary artery is normally a little narrower than the aorta. 7. The result of this condition must be a difference of the blood-pressure in the lungs during the different periods of life. It is evident that the pressure is greater in the child than in the adult. This condition is probably compensated by the greater growth of the left ventricle as compared with the right, and by a relatively considerable increase in the calibre of the ascending aorta. 8. For the access of puberty, the development of the heart and arteries is of the most essential importance. 9. In certain defined constitutional anomalies (cancer, scrofulous phthisis, rickets) there are certain differences in the size of the heart, the calibre of the arteries, the size of the lungs and liver, as well as in the relation of the size of the pulmonary artery to that of the aorta, and these differences may be transmitted hereditarily. 10. The calibre of the arterial system seems to be of importance in the course of acute diseases; paralysis of the heart occurs more early and more readily in persons with narrow than in those with wide arteries. It was found that the arteries were remarkably narrow in the greater number of deaths from enteric fever. 11. Narrowness or wideness of the arteries is by no means equally distributed over the whole system. Variations may in some cases depend on the local development of disease. For instance, in rickety children with symptoms of hydrocephalus, the large arteries of the brain were often found to be remarkably wide.—*London Med. Record*, April 15, 1878.

Materia Medica and Therapeutics.

Biological Action of Salicylic Acid and Salicylate of Soda.

In the *Commentario Clinico di Pisa* for January and February, Drs. CHIRONE and PETRUCCI publish an account of a number of experiments made in the Pharmaceutical Laboratory of the University of Naples, on the action of salicylic acid and salicylate of soda on warm-blooded animals (dogs and rabbits), and cold-blooded animals (frogs). They sum up in the following conclusions: 1. The biological action of salicylic acid and of salicylate of soda is identical; but with the former the local effects, with the latter the general effects, are more marked. 2. Salicylic acid, both free and in the state of salicylate, when administered in small doses, lowers the temperature, but within restricted limits; in a somewhat large dose, it does not only not lower the temperature, but sometimes considerably increases it. 3. Animals subjected to the daily use of salicylic acid and salicylate of soda rapidly become emaciated and lose weight. 4. The heart-beats are in frogs reduced in number, especially by salicylate of soda; but in mammalia salicylate of soda sometimes retards, sometimes accelerates, the heart's action, independently of the dose. With free salicylic acid, the number of heart-beats is, in most, constantly reduced. 5. Salicylic acid almost constantly reduces the number of respirations; salicylate of soda ordinarily first increases and then diminishes the number.—*London Med. Record*, April 15, 1878.

Detection of Mercury in the Urine.

GUNTZ (*Virteljahrschr. für Dermatologie und Syphilis*, Band iv. (N.F.) Heft i. p. 2), employing Ludwig's process for the detection of mercury in the urine, has arrived at the following results with regard to the period of the duration of this drug in the human system, and the liberating action upon it of sul-

phur internally and combined with baths: 1. Mercury may be detected in the urine, after eight weeks or more have elapsed since the discontinuance of any mercurial treatment. 2. In cases where the urine gives no evidence of the presence of mercury after the administration of the drug, this may be detected after two or three days of sulphur treatment. 3. After a few days of such treatment, the urine no longer gives any signs of the existence in it of the metal. 4. While the mercury is thus being eliminated from the system, there is frequently a fresh outbreak of the symptoms of syphilis. The therapeutic influences from these facts are, that mercury is the antagonist of syphilis; that it should be administered in small doses and temporarily discontinued upon the slightest manifestations of salivation; and that sulphur is of service where too much has been administered.—*London Med. Record*, April 15, 1878.

—

Subcutaneous Injections of Chloroform.

M. CONSTANTINE PAUL communicated to the Société de Thérapeutique (Feb. 13, 1878) a remarkably successful treatment of a case of confirmed sciatica by injections of chloroform. They removed the pain and caused no accidents. M. DUJARDIN-BEAUMETZ said that he had continued his investigations respecting subcutaneous injections of chloroform (see *London Medical Record* for March 15, 1878, pp. 127, 128). Since he had performed them with greater regularity, he did not meet with any local accidents, and, if they did occur, it was in consequence of the operation being badly performed. The greatest attention must be paid to the manipulative part of the operation, and hence these injections would never come into general use. Especial care must be taken, when once the canula was placed in the cellular tissue, not to penetrate the deep surface of the dermis at its lower surface when introducing the syringe into the canula, otherwise a slough would be produced. With reference to the general effects, M. Dujardin-Beaumetz had observed that with from four to six grammes (a drachm to a drachm and a half) of chloroform injected at once sleep was obtained; not anæsthetic sleep, but a more or less deep calm and repose, which came on very slowly from four to seven hours after the injection, and sometimes lasted one or two days. Alcoholic and hysterical patients were much more difficult to bring under the influence of chloroform, and in these cases from ten to twelve grammes (two and a half to three drachms) were requisite to produce the same effects. Thus chloroform introduced in this manner into the animal economy produced the effects of chloral, and passed but very slowly into the system. These injections, in contradistinction to injections of ether, lowered the pulse and the temperature. M. Dujardin-Beaumetz performed these injections in the cellular tissue of the back, and allowed to each puncture two grammes of chloroform (half a drachm).—*London Med. Record*, April 15, 1878.

Medicine.

Transfusion in Anæmia.

Professor BITOT, of Bordeaux, relates (*Union Méd.*, April 9 and 16) eight cases of transfusion performed on four persons with success by an improved apparatus which he describes. He attaches great importance to endeavouring to prevent the shivering occurring after the operation (which he regards as a true

febrile paroxysm) by the administration of quinine. He terminates his paper with these conclusions: 1. Transfusion may prove a sovereign remedy in cases of anæmia caused by hemorrhages independent of cancer. 2. It may prove very useful in cases of physical degeneration caused by hyperæmia. 3. It is rather mischievous than useful in disorders of a cancerous nature. 4. It is very prudent to administer quinine to the patient two days prior to the operation.—*Med. Times and Gaz.*, April 27, 1878.

—

Use of Carbolic Acid in Typhoid Fever.

In *Lo Sperimentale* for January, Dr. C. TEMPESTI relates two cases illustrative of the use of carbolic acid in enteric fever. They were observed during an epidemic of the disease which prevailed in 1875.

The first patient was a girl aged ten. The ordinary symptoms of the disease had been present several days, when in the course of the second week there appeared nocturnal delirium, epistaxis—often abundant, diarrhœa, depression, stupor, bronchial catarrh, sordes on the nostrils and teeth; and there was hemorrhagic discharge from the gums, fauces, and tongue. Recourse was had to clysters of cold water and to painting the parts inside the mouth with a solution of 2 parts of carbolic acid in 100 of water; but the disease obstinately resisted all treatment. Dr. Tempesti then decided to give the patient the solution of carbolic acid as a drink; she took it with avidity, and in a few hours half a drachm of carbolic acid had been taken. The next day, all threatening symptoms had disappeared, and the patient asked for food. Half a drachm of carbolic acid was again given in solution; two weeks later the patient was convalescent, and soon completely recovered.

The second case also occurred in a girl aged 10, who was the subject of very severe typhiod fever with dissolution of the blood. The internal use of carbolic acid was prescribed; but through the prejudice of the friends the administration of half a drachm of the acid was spread over five days; hence the medicine was useless, and the child died.

Dr. Tempesti sums up in the following conclusions:—

1. Carbolic acid may be a remedy of much value in cases of typhoid fever in which death is threatened (the putrid state of old writers), and is worthy of being subjected to clinical research.

2. The dose must be sufficiently high (half a drachm or a drachm daily in ordinary drink or in abundance of water). Small doses, perhaps in consequence of the nervous stupor which prevails in typhoid fever, are of little or no therapeutic efficacy.—*London Med. Record*, April 15, 1875.

—

Delirium Preceding the Eruption of Smallpox.

Dr. ZIPPE relates (*Allgemeine Zeitschrift für Psychiatrie*, Band 34) a case of considerable interest from a medico-legal point of view, in which a man who had murdered one of his children was acquitted on the ground that the act had been committed while the prisoner was suffering from the primary fever of variola.

M. E., a labourer, aged 35, who lived alone with his three children and was much given to drinking, returned earlier than usual from his work one afternoon. The children noticed a change in his appearance and demeanor; he treated them harshly and cruelly as he had never done before. On the following day he remained at home, took no food, and spent most of his time in bed; early next morning his youngest child was found moribund in the street below his window; the elder children could give no explanation of the occurrence as they had slept soundly; but the father, on being questioned, at once admitted having thrown it from the window, "because he could no longer support it." Two days after,

while he was in custody, the eruption of smallpox appeared upon him. Other circumstances besides those given above, pointed to the patient's having been delirious during the night in question. He was consequently acquitted, it being believed that his condition when he committed the murder was such that he could not be responsible for his actions.—*London Med. Record*, April 15, 1878.

—

Treatment of Apoplexy with Heart-disease.

Some years ago Dr. Beneke pointed out the benefit to be derived in cardiac affections, especially those following on articular rheumatism, from the use of warm saline baths impregnated with carbonic acid. His observations are fully borne out by the physicians at the baths of Nauheim, who find these baths beneficial not only to the rheumatic affection, but also to the attendant heart-disorder. Dr. GROEDEL (*Berliner Klinische Wochenschrift*, March 11th) has further found that these baths are useful in cases of (so-called) apoplexy accompanying heart-disease. They soothe the exalted action of the heart, while the paralytic symptoms and general health undergo marked improvement. A case in point is singled out from many others as having been continuously in observation. It is that of a lady, aged 49, who, when 18 years old, had a severe attack of articular rheumatism, which left insufficiency of the mitral valve. Five years ago she had a slight apoplectic seizure during the night, which passed off in a couple of hours; and, since then, such attacks recurred at intervals, until three years ago she had an unusually severe one, followed by complete hemiplegia of the left side, with long-continued unconsciousness. In a few days these symptoms passed off again, with the exception of the hemiplegia. The case was doubtless one of cerebral embolism rather than of apoplexy. She was ordered to use the above saline baths at a temperature of 88° F. every other day, which was continued for seven weeks. Under this treatment, the heart's action, previously very irregular, became almost normal, and all œdema, which existed before, disappeared. This favourable state of things continued until the following winter, when palpitation, œdema, etc., returned, but were again relieved during the ensuing summer. There has been no further symptom of embolism.

Dr. Groedel concludes that, in cases of true apoplexy, especially those occurring in consequence of atheromatous arteries, the use of the warm saline baths is inadmissible, since they tend only to increase the blood-pressure on the weakened arterial walls. On the other hand, these baths can only be useful in cases of cerebral embolism, with consequent paralysis. For, by the increased action of the heart, the blood-current is hastened, and thus the formation of coagula and deposit is prevented, since this can only occur in a sluggish flow of blood. Moreover, when a part of the cerebral substance has its supply of blood cut off by an embolic clot, and so becomes atrophied, an increase of blood-pressure may yet restore it. Nutrition through a collateral circulation, and a removal of the loss of power, etc., result.—*London Med. Record*, April 15, 1878.

—

Chorea in Old People.

M. CHARCOT (*Progrès Médical*, March 9) says the chorea of old people does not differ from the ordinary form; it is rare; he has at present only two cases, and only three have been recorded by Roger, Sée, and Graves. It presents no modification except, perhaps, relative slowness of the movements, and very chronic course; in the two cases quoted it had existed 11 and 12 years respectively. It is incurable, but does not appear to endanger life. He has seen one patient, however, die in a typhoid state, with considerable elevation of temperature; another case terminated in maniacal delirium, with elevation of temperature.

Most of the cases have appeared to be in a more or less pronounced state of dementia. As to its etiology, it does not seem allied to rheumatism; in the necropsies made, no cardiac lesions were found. It appears to be an emotional disease, and, in several cases, supervened after some special cause of grief or agitation. This disease differs essentially from senile trembling, which has been sometimes called senile chorea.—*London Med. Record*, April 15, 1878.

—

Anatomical Causes of Infantile Paralysis.

Dr. EISENLOHR (*Allegemeine Zeitschrift für Psychiatrie*, Band 34, Heft 2) says that after Charcot, Joffroy, Parrot, and Duchenne had stated that a primary change in the motor ganglion-cells of the anterior cornua of the gray matter of the spinal cord was the anatomical cause of infantile paralysis, while Roger and Damaschino, on the other hand, found, in several cases, evidence of myelitis in the anterior cornua of the cervical and lumbar regions, Leyden pointed out that the disease in question is not always due to one and the same cause, but may be caused by various anatomical lesions.

The author relates the case of a child, aged nine months, who suffered from unmistakable spinal paralysis of both extremities, and died of follicular enteritis. Simple atrophy of the muscular fibres was found without either increase of nuclei, development of fat, or fatty degeneration of the muscular elements. The morbid appearances in the spinal cord were, atrophy of the anterior roots, thickening of the neuroglia and of the fibrous septa in the anterior and lateral columns, with atrophy of the nerve-fibres extending through the greater part of the length of the cord; degeneration or disappearance of a number of ganglion-cells in the anterior cornua of the dorsal and lumbar regions; marked proliferation of nuclei in all the columns as well as in the gray matter of the sacral and lower lumbar regions.

Attention is drawn to the extension of the process over so considerable a length of the cord, and to the participation of both the white and gray substances. The appearances observed are regarded as the results of a diffuse interstitial myelitis. Perhaps the variations in the anatomical lesions found in infantile paralysis may cause corresponding differences in the clinical features of the disease.—*London Med. Record*, April 15, 1878.

—

Oxalate of Cerium in Chronic Cough.

Mr. THOMAS CLARK (*Practitioner*, May, 1878) has for some time used the oxalate of cerium in cases of chronic cough with shortness of breathing, with very marked success.

One case under observation is a proof of its good effects as a sedative.

A lady has suffered for some years with cough and difficulty of breathing, on the least exertion, "the outcome of an acute attack of pneumonia," the cough being most troublesome in the morning on getting up; so bad as to cause sickness. Mr. Clark prescribed 5 gr. half an hour before rising.

The physical signs observed in her case have been loud bronchial breathing, with great abdominal action, impaired resonance over lungs, with a slight dulness at the apex of left lung. The most marked physical changes since taking the ox. cerium, are less noise in breathing, less abdominal action, no cough in the morning, and increased strength.

Mr. Clark could relate other cases, but only mentions one other, it being under his care in the village hospital; a case of consolidation of the right lung. The rest given to the lung by the ox. cerium in gr. 5 doses is observable in the comfort in breathing and the cessation of cough for twenty-four hours after each dose.

The medicinal properties of ox. cerium Mr. Clark believes to be purely sedative, a great desideratum in the treatment of lung diseases, the difficulty being to find a drug that will not upset the digestive organs. In all cases wherein he has used the ox. cerium the only symptom observable from its use is a slight dryness of mouth.

—

Paracentesis Thoracis.

M. MORAND, a military surgeon, publishes in the first number for the present year of the valuable periodical issued from the French Ministry of War (*Recueil de Mém. de Méd., de Chir., et de Pharm. Militaires*) a carefully drawn up report on the results of thirty-two cases of thoracentesis performed on soldiers in the garrisons of Lyons and Vincennes. He observes that, amidst the great differences of opinion as to the value and necessity of this operation in pleurisy, facts carefully observed—unbiased by the prevailing exaggerations and prepossessions—are what are required, and it is to these he desires to contribute a contingent. In military medicine the question is of great importance, for, as the medical statistics of the French army show, the mean number of deaths from pleurisy is 2.20 in 100 deaths, and as the proportion of deaths is 5 per cent. of the cases of pleurisy, the entire number of those attacked becomes very considerable. Moreover, however slight the effusion, much exemption from military service is entailed.

Comparing thirty-one of the cases of pleurisy treated by thoracentesis with 109 treated at the same time medically in the same military hospitals, it results that among the former the days passed in hospital averaged 72.67 for each patient, and the mortality was 16.12 per cent.; whilst among the better or medically treated cases the stay in hospital was 40.60 days each, and the mortality was 5.50 per cent. One of the most important facts is that in twenty-seven of the thirty-two cases operated upon the reproduction of the liquid was rapid and complete, being more or less incomplete in the five others. As to the supposed innocuity of repeated paracentesis, it is to be observed that of the six cases in which the discharge became purulent, such repetitions had occurred in four. Among the accidents occurring in the thirty-two cases, these consisted of syncope in four, of suffocative paroxysm in eleven, and of albuminous expectoration in two. The general conclusions at which M. Morand arrives is, that in consequence of the rapid reaccumulation of fluid, paracentesis is a useless operation, while owing to the occurrence of the more or less menacing accidents alluded to above (altogether seventeen in number), and to the purulent transformation of the fluid occurring in six cases, it must be regarded as a dangerous one. Not that it should be altogether renounced, but confined to those comparatively rare cases in which the life of the patient is menaced by the abundance or the suddenness of the effusion—as announced by dyspnœa, cyanosis, great and extreme dulness, the abolition of thoracic vibration, the displacement of the heart, and especially by the general condition of exhaustion of the patient. He would say with M. Roger, that we should never operate in serious pleurisy when the effusion is moderate, and rarely when this is great, doing so exclusively when the urgent signs just mentioned are present.

Empyema.—In purulent pleurisy, on the contrary, an operation must always be resorted to for the purpose of enabling the pleural cavity to be washed out, and putrid formentation prevented or combated. For the injections employed for this purpose, M. Morand prefers a mixture of carbolized alcohol and water. Among his thirty-two cases of paracentesis, five were followed by purulent pleu-

risy, for which that operation was performed, with one complete recovery, and one incomplete recovery, a pleural fistula remaining.—*Med. Times and Gaz.*, May 4, 1878.

—

Contagiousness of Phthisis.

The following notice of a paper by Dr. TAPPENIER, read at a meeting of German naturalists and physicians, at Monaco, is translated from "*Lo Sperimentale*," of Jan. 1878.—All physicians have observed cases of phthisis rapidly developed in individuals who had for a long time attended on patients in this disease, even when such attendants had not presented any predisposition, either individual or hereditary. Dr. Tappenier believes that the explanation of the fact is to be found in the inhalation of the expectorated matter, scattered in the air by the coughing of patients. In order to test this opinion, he made experiments, by intimately mixing a certain quantity of the sputa in a little water; he pulverized this emulsion by an appropriate process, and subjected some animals to the inhalation of the substance during one or two hours every day. These experiments were made in the Anatomico-Pathological Institute of Prof. Buhl of Monaco. Dogs were selected, as animals presenting the least predisposition to contraction of the disease. Three perfectly sound dogs were put into the pen of the institute; the pen is situate near a window, and is closed in all parts, excepting above, where it receives the external air, through a door which is furnished with a fastening. Some sputa was obtained from a patient in phthisis, a spoonful of which was mixed in a quantity of water sufficient to make of it a liquid similar to almond milk, and every day pulverization of this was made in the pen during an hour, or an hour and a half. At the same time, for the purpose of studying absorption, by the digestive system, of the tuberculous matter, two of the dogs were made to swallow a certain quantity of it, from the same patient.

The whole five dogs had apparently a good appetite, and presented neither cough nor diarrhœa, they ate freely, and were cheerful and nimble, without any symptoms of illness, unless a slight wasting and arrest of development. At first view, therefore, the experiments gave a negative result. But the day preceding the first autopsy, a little finely powdered carmine was mixed with the tuberculous liquid, in order to discover how far it had penetrated into the respiratory passages. Two of the dogs subjected to inhalation, and the two which had swallowed the tuberculous mixture, were killed six weeks after the commencement of the experiment. The autopsy of the fifth had been made at the end of three weeks.

The results of the autopsies were surprising. The five dogs presented a general miliary tuberculosis of both lungs, of the liver, the kidneys, and (at least in the two that had swallowed the tuberculous matter) of the digestive apparatus. The numerous stains of carmine which were seen on the pulmonary surface, showed that the inhaled liquid had penetrated into the pulmonary cells. The microscopic examination made by Professor Buhl, established in the clearest manner the reality of the lesions.

It has, therefore, been established experimentally that in the dog a general miliary tuberculosis can be induced from the inhalation, or the ingestion of the matter expectorated by a phthisical patient. The possibility of contagion of phthisis through the natural channels, may therefore be concluded.

The hygienic and clinical consequences of the experiment are of high importance. And first of all it is to be noted that those dogs continued in apparent sound health, despite the existence of general miliary tuberculosis. It is, therefore, possible in man a miliary tuberculosis may rest latent during a certain time, and may not become a real and declared phthisis, before the development of foci

of inflammation. But that which is of chief importance is the possibility of transmission of tuberculosis from man to man.

In ordinary conditions, that is to say, in fresh and frequently renewed air, the matters expectorated, and suspended in the air, may not become sufficiently concentrated to have the power of inducing tuberculous infection. But when a certain number of phthisical patients reside together, and through fear of cold or of drafts, the place is but little, or not at all ventilated, may we not fear that the expectorated matter will accumulate sufficiently to become dangerous to healthy persons, living in the same quarters? Ought we not, therefore, in this regard to take precautions, sometimes neglected, particularly in the wards of hospitals? Is it not, perhaps, prudent to recommend to consumptives never to swallow the matter brought up from cavities, which may have a deleterious influence on the digestive canal? Finally, may not these experiments, in some degree, explain the transmission of phthisis from husband to wife, or *vice versa*, and, consequently the advisability of avoiding conjugal intercourse?

The facts stated by Dr. Tappenier are of great interest, and may explain many points of the important question of the contagion of phthisis.—*Canada Lancet*, May 1, 1878.

—

The Influence of Pregnancy in Phthisis.

In the *Nice Médical*, February, 1878, Dr. A. LEBERT says that for a long time it was believed that pregnancy arrested or suspended the progress of pulmonary phthisis. In 1850 Grisolle affirmed that pregnancy aggravated the phthisical condition. Dr. Lebert's observations support, in the main, those of Grisolle; but he finds that the results of labour are more pronouncedly deleterious than those of pregnancy. Out of 33 phthisical girls who married, 10 died in their first labours. He is of opinion that the physician should discourage marriage in any young girl who has shown at any time symptoms of tuberculosis.—*London Med. Record*, April 15, 1878.

—

The Presence of Elastic Fibres in Phthisical Expectoration.

SOKOLOWSKI and GREIFF say (*Deutsche Med. Wochenschrift*, Feb. 9, 16, and 23, 1878) that in many cases of phthisis, when the physical signs do not afford satisfactory evidence of destruction of lung-tissue, the demonstration of elastic fibres in the sputa becomes of great diagnostic and prognostic importance. The authors have made very numerous observations to determine how far the presence of elastic fibres in the sputa corresponds to the data of physical examination, in respect to the destruction of the pulmonary tissue. With this object they have followed the cases of seventy patients; the examinations for the fibres have been made by two methods, fresh and by Fenwick's process slightly modified, the latter being generally adopted.

They mixed the whole of the sputa with a soda solution (1 of liquor sodæ to 2 of distilled water) and boiled it for four or five minutes; then diluted it with an equal quantity of distilled water, poured it into a flat porcelain vessel, and fished out the particles suspended in the water, and subjected them to microscopic examination. In some cases they only found one single piece, in others many dozen; in the cases where so many were present, the physical examination also showed signs of great destruction of the lung, but in general no very great importance is to be attached to the number of the pieces. Their size varies as much as their number; in one case of gangrene of the lung the large pieces were more than a millimetre long; but in general they were only a few fractions of a millimetre. In colour, the boiled fibres were yellowish-brown, or dark-brown and

blackish. Generally the fibres assumed the structure of a reticulum, but very rarely as well marked as Fenwick figures it; the colour is so distinct that artificial staining, as suggested by some (by fuchsin as recommended by Duval), is unnecessary. There are frequently fungous growths in sputa, which at first might be confounded with the fibres, but the greater thickness and regularity of the latter indicate their nature. (The authors here print a tabulated account of all their cases.)

Of the 70 patients who were examined, 19 belonged to the stage of breaking down of the lung with marked hectic: of these 19 cases they found elastic fibres in 18; in two they found them only at the second or third attempt, although the physical signs of destruction were present. The single case, in which in spite of two examinations they failed to find any fibres, was a female patient, aged 20, with great destruction of the left upper lobe and marked hectic; further investigations were made impossible by the departure of the patient. In another of the patients of this group they found the fibres once only in several examinations. In one case the absence of the fibres corresponded to temporary improvement and freedom from fever; in another they found no fibres at their second examination, although no improvement, but an increase of the hectic, existed. From their cases they conclude that, in cases of phthisis with demonstrable breaking down and decided hectic, fibres will be found, if not in one, at least after several examinations; but that in these cases the discovery is of no value, as the destruction of the lung-tissue is otherwise sufficiently proved.

Of eleven cases belonging to the category of chronic phthisis with unmistakable destruction of lung-tissue, but without hectic, elastic fibres were found in all, but in one of these they were only found at the second or third examination, at a time when temporary fever and a relapse existed. Here also their discovery was of no diagnostic value. But may it be of prognostic value, as the case just referred to might indicate? In another case, in spite of general and local improvement (disappearance of the physical signs of a cavity), elastic fibres were found up to the time of his discharge, which served to show that, in spite of the apparent improvement, the destructive processes in the lungs were still going on.

In the other forty cases there were signs only of consolidation; the condition of all was good, and without fever, with two exceptions. In the first case, after a violent attack of pulmonary hemorrhage, diffuse pneumonia with high fever supervened, which terminated in death. In the second case, a feverish condition developed from time to time, which generally accompanied hæmoptysis. Of these 40 patients 16 had great consolidation of one or both lungs; of these 16 they found elastic fibres in 12 cases, in four cases they found none. Of these four cases two had great consolidation of the right lower lobe, in the other two the consolidation was of very old date, and probably was already contracted. Of the 12 cases in which fibres were found, in one case they were discovered first at the second, in another not until the sixth examination; in the last patient their appearance was preceded by several days' fever and dyspnœa, probably indicating a commencing destruction of the infiltrated parts. In 75 per cent. therefore of their cases of consolidation, they found these fibres present, which, they say, shows how frequently destruction is going on although the physical signs are those of consolidation only. In such cases, the prognosis must be always made with caution. The remaining 24 patients had only very slight consolidation in one or both apices; in eight cases, or one-third of the whole number, the elastic fibres were found, in the other two-thirds there were none. Of these eight cases some are worth recording briefly.

Case I. Frau H., aged 30, with hereditary predisposition, said her illness began six months ago with a cough. There never had been any fever; from time to

time she had hæmoptysis. Her general condition was good. There were very limited dulness in the right supraclavicular fossa, prolonged expiration, and scanty *râles;* cough was very little, only in the morning. The expectoration was slight, whitish, without any clumps; microscopic examination showed pus and mucus cells. Fenwick's method demonstrated elastic fibres. After three weeks she was better; the *râles* had disappeared; the cough and expectoration were less, in the latter there were still elastic fibres. After five weeks more, there was still more improvement; there was quite slight dulness with loud expiration; cough and expectoration were little marked. In the latter, in spite of careful examinations, no elastic fibres could be found.

Case II. Herr H., aged, 18, with hereditary predisposition, said he had had a dry cough for two months. He had become very thin, feeble, and short of breath. Evening temperature, 38.5° cent. (101.3° Fahr.). There was slight dulness at the right apex, and scanty dry *râles;* his cough was violent with slight sputa containing a moderate number of fibres. The diagnosis was, commencing destruction of the infiltrated parts of the lung, with an unfavourable prognosis. The course of the case was persistent fever, occasional hæmoptysis and once pneumorrhagia, while the physical signs of destruction were still more decidedly present.

Case III. Herr W., aged 26, in good general health, was free from fever, but with slight dulness at the right apex, prolonged expiration and scanty dry *râles.* For some weeks he had suffered from a daily, though not inconsiderable, hæmoptysis. The sputa showed no elastic fibres at the first examination, but the second time, three weeks later, a very decided reticulum was found. The general condition of the patient had improved, but the hæmoptysis had persisted. Apparently there was in this case a deeply situated patch of destruction from which the expectorated blood came. The patient withdrew himself from further observation.

Of the eight cases in which the fibres were found, in five they disappeared after more or less time, which coincided with a gradual improvement. Of the other three cases, in one the local lesion maintained the *status quo*, in the other two it made rapid progress.

From these facts, it appears that the demonstration of elastic fibres is of the greatest diagnostic and prognostic importance in cases of badly marked infiltration of the pulmonary parenchyma. The author's conclusions are thus summed up.

1. The examination of the sputa in phthisis should not be neglected.

2. A single examination for elastic fibres, especially for negative purposes, is not sufficient.

3. In physically demonstrable pulmonary destruction, the presence of elastic fibres in the sputa may generally be expected, but it is of little value for diagnosis or prognosis.

4. In those cases which present physical signs of only more or less consolidation of the lung-tissue, the finding or not finding of elastic fibres is of great importance for diagnosis and prognosis.—*London Med. Record*, April 15, 1878.

—

Infarction of the Heart.

Cases of acute and extensive infarction of the wall of the heart are not common, and one lately published by M. LAVERAN is of interest on account of the symptoms which resulted from the accident, and which were carefully observed for a fortnight before death. The patient was a man forty-seven years of age, and the anatomical change consisted in an area of softening, three or four centimetres across, in the wall of the left ventricle. The softening was so complete as to

constitute an actual abscess, extending between the endocardium and pericardium, neither of which, however, was perforated. The coronary arteries were atheromatous, and the anterior branch, going to the softened spot, was completely obliterated. The ventricle was much dilated and distended with blood. The first symptoms, a fortnight before death, were pain in the left side, and rapidly increasing dyspnœa, with slight hæmoptysis. The heart's action was excited, frequent, and irregular. The cardiac dulness was increased, the sounds distant but without murmur. Respiration was rapid, the lungs normal, the extremities dusky. The difficulty of breathing became most intense, and prevented sleep. The heart-sounds became inaudible. Pericarditis was diagnosed, and antimony administered. The symptoms lessened considerable in severity, so that the patient was able, at the end of a week, to sit up. They recurred, however, in a day or two with renewed violence, and a large hemorrhage from the lungs occurred without relief to the dyspnœa, which continued until death, a few days later. Many foci of pulmonary apoplexy were found after death.—*Lancet*, May 4, 1878.

—

Treatment of Infantile Diarrhœa.

Dr. RENE BLACHE, in the *Journal de Thérapeutique*, July 25, 1877, studies diarrhœa in young children, and shows that there are several stages in this affection, and that it frequently suffices to combat the first stage of this diarrhœa to prevent the appearance of the serious symptoms of choleriform diarrhœa. Whatever may be the nature of the diarrhœa, its origin, intensity, or even the distance of the time when it showed itself, M. Blache employs the following treatment, which he has always found successful, modifying it according to circumstances. 1. Reduction of the quantity of food given; suitable injections repeated according to need, and poultices on the belly. 2. The administration each morning during three, four, or five consecutive days, of a small teaspoonful of equal parts of castor oil and syrup of gum arabic, simply emulsified by shaking the bottle at the time when it is used. When the child is under six months old, one gramme (15 grains) of castor oil is enough for a dose; and if from six months to two years old, from two to three grammes are necessary. If after the second day the diarrhœa be less but have not entirely disappeared, no more of the medicine should be given than on the day before. On the other hand, if the stools be particularly fetid and glairy, another dose must be given on the same evening, as well as on the next day. If the case be one of profuse liquid diarrhœa, recurring twelve, fifteen, or even more times in the twenty-four hours, the mixture must be altered, doubling or trebling the dose of gum, and adding a little vinum opii, from one to three drops at the most, according to age, in the four-and-twenty hours, and the medicine must be repeated every two or three hours. The object or effect of this castor oil treatment is to cleanse the mucous membranes, which it modifies, without, however, purging in the general acceptation of the term. Injections are equally useful. First a large injection of chamomile tea is given, followed in twenty minutes by a small injection of starch. These are repeated whenever a series of four or five actions of the bowels occur in the space of from six to ten hours. In the latter case bran of marsh mallow is substituted for chamomile. As to the absorbents, more especially bismuth, so often used in these cases, M. Blache distrusts them, as they may bring on convulsions, doubtless by preventing the cleansing of the mucous membrane.—*London Med. Record*, April 15, 1878.

Treatment of Nervous Vomiting by Electricity.

In a letter to Dr. P. Schivardi, published in the *Gazetta Medica Italiana-Lombarda*, No. 6, 1878, Dr. SEMMOLA gives the results of observations made during several years on the diagnosis and treatment of nervous vomiting. He finds that electricity in the form of the constant current is the most effective remedy. Soon after the first application, the patients can retain food, although for many weeks previously they had always rejected it. He believes, also, that the constant current is not only a sure remedy, but also a valuable means of diagnosis in all cases of chronic vomiting. If the elements of diagnosis be not sufficient to determine whether the vomiting is dependent on some morbid process in the stomach itself, or on reflex action (as from worms or chronic uterine disease), the application of the current at once settles the question. In cases where the vomiting is not exclusively and primarily nervous, its application fails in enabling the stomach to tolerate food.

Dr. Semmola relates twenty cases in which a cure was produced by the means which he recommended. The last of them is as follows:—

The daughter of Mr. C., a member of the Italian Parliament, had been greatly reduced by vomiting which had lasted three months, and which was attributed by her medical attendants to perforating ulcer of the stomach. On the evening of November 14, 1875, she had a sudden attack of aphonia, and was believed to be at the point of death. Dr. Semmola was consulted for the first time. The aphonia led him to suspect hysteria. He was unable to see any vomited matter, as she had taken no food since the morning. He applied the current by means of Onimus' apparatus, and very soon afterwards the patient was able to take a cup of milk. On being questioned, she acknowledged that she had a sensation of constriction in the throat; and this confirmed his opinion that he had to deal with a case of hysterical neurosis. The constant current was applied between the sides of the neck and the larynx, and afterwards between the sides of the neck and the stomach. The application was repeated several times daily, and in two months the cure was complete and permanent.—*London Med. Record*, April 15, 1878.

—

Sulphate of Quinia in Diarrhœa.

M. GUYOT read to the Société Médicale des Hôpitaux (*Journal de Médicine et de Chirurgie Pratique* for March) a case in which the patient was cured of a catarrhal diarrhœa which had lasted several months, by the administration of sulphate of quinine. All other medicines had been employed without effect; and on M. Potain's recommendation M. Guyot prescribed the following: sulphate of quinine, half a gramme; syrup of codeca, 30 grammes; gum julep, 100 grammes. The mixture was continued for a long time, and the dose of sulphate of quinine progressively increased to one gramme. M. Potain has also obtained cures in obstinate diarrhœa by the use of sulphate of quinine even when, as in the present case, the patient showed no traces of malarious infection.—*London Med. Record*, April 15, 1878.

—

Biliary Calculi and their Pathological Relations.

Dr. BENEKE, of Marburg, in a paper recently published in the *Deutsche Archiv für Klinische Medicin*, observes that the formation of gall-stones may be due to two causes: either there may be a relatively great increase in the amount of cholesterin formed in the liver, so that it appears in the gall-bladder in the same way that urate of soda or uric acid appears in concentrated urine; or there

is a deficiency in the amount of the biliary salts holding it in solution, just as the uric acid salts or crystals of uric acid are deposited in the urinary passages when there is a deficiency of soda or an excess of phosphoric acid. Beneke obtained from the liver of a powerful and apparently healthy man, thirty years of age, who died from a broken neck, 4.07 grm. (62.8 grains) of cholesterin; from the nutmeg liver of a man aged twenty-seven, who died from encysted pleuritic exudation, caries olecrani, and pyæmia, 5.153 grm. (79.56 grains); from the amyloid liver of a man aged forty, who died from chronic pneumonia, pleuritic exudation, amyloid liver and spleen, 5.078 grm. (78.4 grains); and from the fatty livers of three subjects dying respectively from caseous pneumonia, suppurative meningitis after compound fracture of the skull in a drunkard, and phthisis, 1.65 grm., 1.36 grm., and 0.263 grm. The conclusions he draws from the examinations of no less than 375 subjects are: 1. That the presence of gall-stones coincides in the majority of cases (about 70 per cent.) with the presence of atheromatous degeneration of the arteries. 2. The atheromatous degeneration of arteries (without gall-stones) is much more common than the occurrence of gall-stones. 3. Gall-stones are more frequently met with in females than in males, but degeneration of arteries is as common in one sex as in the other. 4. The occurrence of gall-stones is usually observed at an earlier period of life (from twenty upwards) than atheromatous degeneration of arteries. 5. Gall-stones are relatively more frequent in carcinoma and nervous arrest of secretion, or congestion of the liver. 6. The presence of gall-stones and of atheromatous degeneration of arteries is relatively frequently accompanied by abundant development of fat. The small quantity of cholesterin in fatty livers is remarkable, but the deduction cannot be drawn that the formation of fat is originally due to defective formation of cholesterin. On the contrary, we may easily conceive that the non-azotized and highly carbonized cholesterin forms a mother substance for the formation of the fatty acids, and if it be formed in large quantities it may be the source of the excessive deposit of fat. Hence fatty livers yield only a small amount of cholesterin. Beneke refers to the large quantity of fat found in the omentum and elsewhere in phthisical patients, while the adipose tissue beneath the skin has almost entirely disappeared. He observes that the formation of fat in the body is associated with considerable diminution in the quantity of blood—that is to say, of oxidizable material. In like manner the formation of fat and the conditions favourable to the development of tubercle go hand in hand, since caries of the feet, hip, or vertebræ compel quiescence. Even if these conditions do not stand in direct etiological connection with the processes of disease, they at least favour their development.—*Lancet*, May 4, 1878.

Changes in the Small Vessels in Bright's Disease and the Dependent Theories.

Dr. EWALD, in an interesting and valuable paper, published in Virchow's *Archiv* for December, says:—

Since Bright (whom Dr. Ewald, by a curious mistake, calls *John* Bright) discovered simple hypertrophy of the heart in twenty-three out of one hundred cases of renal disease, which could not be accounted for by valvular disease or atheroma, a discussion has waged as to its cause; some see in its relation to renal disease cause and effect; others consider the presence of some third factor necessary. Bright himself took the latter view in regarding it as due to the impurity of the blood, and consequent obstruction to the capillary circulation. Johnson and Traube sought its cause in the anatomical changes in the kidney; the former believing that the renal arterioles became tonically contracted, while the latter localized the obstruction in the restricted capillary network consequent upon the con-

tracting change. Subsequently Johnson brought forward his observations on the hypertrophy of the arterioles in the pia mater, skin, and mesentery, and, widening the basis of his theory, asserted that the arterioles throughout the body underwent the same tonic contraction, and compared the process with what occurs in carbonic acid poisoning. Still more recently, Gull and Sutton have started a fresh theory; they have described a special change in the bloodvessels, a thickening of the lymph-sheaths, with degeneration of the muscular tunics, to which they have given the name of "arterio-capillary fibrosis," and finding this in cases independent of renal disease, *e. g.*, cardiac valvular disease, etc., they see in these changes the primary lesion, and in the renal degeneration only a local intensified expression of the general morbid process. Dr. Ewald has undertaken careful observations on this head, but has not succeeded in assuring himself that, in these cases, there is anything deserving to be considered as a special change in the lymph-sheath; he finds only general thickening of the arterial wall, chiefly confined to the muscular coat. He examined arterioles by isolating them, and measuring their lumina and coats under the microscope; he found that a certain definite proportion existed in vessels of a certain calibre between the width of the lumen and the thickness of the coats; and when these normal proportions were departed from, he regarded the vessel as hypertrophied. Obviously, he says, it is not easy to discriminate between coats thickened by hypertrophy and those thickened by contraction, but it is not very probable that tonic contraction would remain after death; for reasons hereafter to be stated, he does not believe that the narrowing of the lumen is due to active contraction, as Johnston states. The thickening of the muscular coat, of which he says there can be no doubt, is quite distinct from atheroma, syphilitic thickening, or the various arterio-capillary changes described by Neelsen, Obersteiner, Wedl, or Charcot, in affections of the nervous system.

He divides his cases into three groups: I. Interstitial nephritis, and interstitial and parenchymatous nephritis (mixed). II. Parenchymatous nephritis. III. Other diseases. In reference to the first group, he says that although it is easy enough to distinguish extreme cases of parenchymatous and interstitial nephritis, yet of many cases less well marked, it cannot easily be said whether the interstitial or the parenchymatous change is the more marked; these he has subdivided according as the kidneys weighed more or less than three hundred grammes (10.6 ounces). Of pure cases of interstitial nephritis, weighing under two hundred grammes (about seven ounces), he had only three, so that this third class is unnecessary; such cases, he observes, are much less rare on the continent than in England and Norway, or on the sea-coast. He says that there seems to be a perfect inverse proportion between the weight of the kidneys and of the heart—the lighter the former, the heavier the latter; but no such distinct relation exists between the state of the kidneys and the vascular changes; as, in five cases in which the kidneys were relatively light, the vascular changes were quite absent, or only feebly marked. In one case of nephritis, secondary to lead-poisoning, with phthisis, there existed an exception to the rule of the cardiac hypertrophy, but this is explained by the ill-nourished state of the patient. No such explanation presents itself, however, for the vascular changes in the cases previously referred to; and it can only be assumed that, under certain unknown conditions, these changes do not develop themselves.

His observations on the first group lead him to the following conclusions:—

1. Nearly all cases of chronic interstitial nephritis have muscular hypertrophy of the heart and vessels.

2. Two-thirds of the mixed forms under three hundred grammes weight have cardio-vascular hypertrophy, one-third have cardiac hypertrophy alone; of those over three hundred grammes, all have cardiac hypertrophy, some have vascular hypertrophy.

Of the second group he concludes that, in a little less than a third of the cases of parenchymatous nephritis, simple hypertrophy of the heart is present.

Under this head, however, were included six cases of amyloid degeneration which were not classed apart, because the amyloid change was slight, while pronounced parenchymatous changes were present.

In the third group were twenty-four cases, of which two were phthisis, two typhus, one ovarian cyst, one leukæmia, two atheroma with senile marasmus, one meningitis, and thirteen disease of the valves of the heart. In those cases which were not complicated with renal affection, no vascular changes were found. Once they were found in a case of secondary nephritis. Diseases of the circulatory apparatus, with or without renal complication, can lead to cardiac hypertrophy, but not to vascular changes. The rule is—that secondary nephritis, and enlargement of the heart, which have some other causes than a primary renal affection, do not lead to vascular hypertrophy.

Dr. Ewald finally considers the causes of these changes. He admits that the data requisite to finally settle the question can only be accumulated by many years' observation in a large hospital; but it is permissible to criticize the current theories. He cannot admit Gull and Sutton's view that the vascular change is primary and a part of senile degeneration, because it is met with in quite young persons, and often immediately dependent upon a blood-poison (scarlet fever); in which cases there can be no question of senile change, debilitating influences, or atheroma. He considers the renal affection as primary, and, in reference to Mahomed's "pre-albuminuric stage," questions whether he ascertained the existence of cardiac hypertrophy. Against Johnson's view he urges that he leaves out of account the action of the depressor nerve, which would retard the action of the heart and bring down the arterial tension. He (Dr. Ewald) finds himself compelled to side with the older writers, who found the obstruction in the capillaries; the obstacle to the circulation of the overladen blood acts in a purely mechanical manner upon the arterial system, raising its tension; and the increased tension in the aorta compels the heart to more active contraction independently of all central influences.

In a sort of appendix he describes the changes in the vessels of the kidney itself; these he regards as purely local and part of the chronic inflammatory process, as described by Friedländer and others.—*London Med. Record*, April 15, 1878.

A Case of Abdominal Abscess with Discharge of Intestinal Worms.

Dr. LORENTZEN describes the following case in the *Berliner Klinische Wochenschrift* of January 28.

S., a robust woman, thirty years of age, had noticed, three and a half years ago, a gradually increasing abdominal swelling. It was on the whole painless, but at times there were attacks of colicky pains without vomiting, but accompanied with much flatulent distension of the abdomen. These attacks became more frequent, while at the same time the swelling increased in size. This was found to occupy the umbilical region, extending from three centimetres (1.2 in.) on the left, to ten centimetres (3.9 in.) to the right of the navel, and from three centimetres above to seven centimetres (2.7 in.) below the navel; it scarcely projected beyond the abdomen, and was soft and scarcely fluctuating, while the navel projected like a thimble. A few days afterwards, while the patient was at work, a considerable quantity of pus escaped from the now retracted umbilicus through an extremely fine opening. Neither the posterior nor lateral boundaries of the swelling could be reached by a probe, and it was now exceedingly tender. During the following days large quantities of purulent matter, which was at first

fecal but gradually became more healthy, were removed through this opening by means of syringing with salicylic acid. One day there was found in the escaping fluid a round, very soft and very flabby body, rather more than an inch in length, which appeared to be a piece of a lumbricus, but it was unfortunately lost. The patient's general condition had hitherto been fairly good; but now the abdominal pains gradually returned and high fever set in, raising the temperature to 104.9 F. and the pulse to 120–140; the bowels became irregular, the pus fetid and unhealthy, and the patient much reduced. Under these circumstances, the original opening in the linea alba was enlarged, and a counter-opening made to the right, as low down as possible; a drainage-tube was inserted, and the whole dressed with salicylic acid bandages. Under this treatment, the discharge of pus became much reduced in quantity, and ultimately proceeded from a sinus only, which extended about two inches to the right side. The patient refused to have this sinus laid open, and herself steadily continued the syringing and dressing with salicylic acid for three months. About this time she removed from the sinus in one day two dead lumbrici, each nearly four inches long and more than one-tenth of an inch thick, besides two other smaller ones; and some days after this two more, but somewhat smaller and evidently young worms, came away. By means of anthelmintics, several worms were evacuated *per anum*. Since then, the patient has been well. It is difficult to understand how these worms penetrated the gastro-intestinal wall and escaped outwards; all symptoms of intestinal ulceration were completely absent. We can, therefore, only suppose that the worms alone perforated the intestinal wall, and that, as soon as they had passed through, the openings so caused at once closed spontaneously.—*London Med. Record*, March 15, 1878.

—

Case of Contusion of the Abdomen followed by Localized Peritonitis and Encysted Dropsy.

In the *Archives Générales de Médecine* for January last, M. DUPLAY reports the following case:—

A strong and healthy man, aged 30, was received into the Hospital Saint Louis, June 2, 1877, having an hour previously received a violent blow in the right hypochondriac region, from the pole of a heavily laden cart drawn by two horses. The patient complained of slight pain in the injured part, but there was no redness, ecchymosis, or distension of the abdomen to be seen. Next day, the patient was attacked with severe peritonitis; from this a recovery eventually took place. At the commencement of July, the right side of the belly seemed to be larger than the left, and the percussion-note was not so clear as upon the opposite side. Cupping was tried at the affected part, but the physical signs increased, and were accompanied by constipation. Expansion could now be felt with every movement, but no bruit could be heard on auscultation. By varying the position of the patient, no displacement of the fluid was effected. The absolute dulness that was present at the level of the tumour disappeared at its circumference. The fluid increased in amount, and caused pain and embarrassment of breathing.

On August 6 the swelling was aspirated, and two litres (1½ pint) of ascitic fluid were drawn off. An analysis showed this to contain a considerable amount of albumen, some leucocytes, altered red blood-corpuscles, and large epithelial cells. Considerable relief followed the puncture, but towards the end of the month the swelling again appeared in the same position. As the fluid increased in amount, the pain became more severe.

On September 25 M. Duplay introduced an ordinary trocar at the spot where aspiration had been practised, and drew off 2½ litres of a liquid similar to that

evacuated on the previous occasion. After having washed out the cavity with some lukewarm water, 40 grammes of pure tincture of iodine were injected. This caused acute pain in the swelling and all over the abdomen, continuing for four or five hours. The injection was followed by slight inflammatory symptoms, lasting a few days. On the fourth day after the operation it was found that a small quantity of the fluid had been reproduced in the cyst, but this daily diminished; the fluctuation and pain disappeared, the appetite returned, and the patient was dismissed cured December 15.

M. Duplay makes the following remarks:—

The formation of an encysted dropsy of the abdomen after an injury is so rare, that I have not been able to find another example recorded in the classical authors. The patient who was the subject of the preceding observations had received a violent contusion on the right side of the abdomen, without any indication of visceral lesion, either of the liver, kidney, or intestines, and in about twenty-four hours an acute attack of peritonitis was developed, which gradually terminated in resolution. Nevertheless, this acute attack was soon followed by a circumscribed swelling, which gradually increased, until, by its volume, it caused severe functional disturbances. By physical signs the swelling was recognized as being produced by a collection of liquid, and a puncture gave vent to two litres of a citrinous fluid, which was quickly reproduced, and occasioned anew the same functional troubles. This liquid collection was evidently situated in the peritoneal cavity. Was it due to the transformation of extravasated blood, or was it a simple consequence of peritonitis following the injury? These two hypotheses may be raised, and it is probable that both may have contributed to the origin of the affection.

Although the injured man did not present after the accident any evident sign of extravasation of blood into the abdomen, there is but little likelihood that such a severe contusion would not give rise to more or less bloody effusion at the point of injury; and, besides, the symptoms of the peritonitis, which declared themselves next day, and particularly the distension of the belly, were of a sufficient nature to mask the signs of the effusion. Then it is right to recall the fact that the examination of the fluid extracted by the first puncture demonstrated the presence of a certain quantity of altered blood-corpuscles. This question is of minor importance; for, if it be sufficiently established that at the commencement there was an extravasation of blood, it is certain that this was not abundant, and that the serous collection observed later could not be considered as a simple transformation of effused blood.

The peritoneum here played the principal part. It is this which formed a circumscribed cavity around a small quantity of effused blood and the products of an inflammatory secretion; which cavity had probably its walls lined by a membrane, giving rise to a continuous morbid exudation. This accidental cavity was evidently formed on one side by the parietal layer of the peritoneum, and on the other by the great omentum or the agglutinated folds of the intestines, lined by a false membrane, and bounded at its periphery by the adhesion of the great omentum, or the intestinal folds, to the parietal peritoneum. The examination before and after the puncture, the exploration of the abdomen after recovery, left no doubt relative to the situation of the cyst in the interior of the abdominal cavity, and of the part taken by the epiploon, and probably also by the intestines, in the formation of the cyst. Thus constituted—that is to say, the morbid secretion being present—there would be a constant tendency to increase in quantity and incessantly to reproduce. Believing that I ought not to act in this case as in other encysted serous collections, I did not hesitate to practise an injection of iodine, which has been followed by a complete recovery, although at the com-

mencement there were some inflammatory symptoms, but not of a grave nature.—*London Med. Record*, April 15, 1878.

—

Tubercle in Muscle.

Instances of the occurrence of tubercular deposits in the voluntary muscles are so rare that considerable interest attaches to an example recorded in a recent number of Virchow's *Archiv*, by Dr. F. MARCHAND. The condition was found in the body of a young man, aged twenty-four years, who had suffered from acute hip-joint disease. The muscles of the hip were pale-red, translucent, and œdematous, and, on close examination, those in the neighbourhood of the joint were seen to contain numerous roundish, hard nodules, about the size of a mustard-seed. Most of these were yellow and caseous; some, however, were smaller, gray, and translucent, with a yellow opaque centre. They were scattered thickly throughout the substance of the muscles, but were somewhat more abundant just beneath the surface and also in the neighbourhood of the insertion. A few were of larger size, and evidently consisted of several smaller ones grouped together. These were found especially in the obturator internus. The tubercles occurred not only in the immediate neighbourhood of the joint, but also at a distance, as in the substance of the gluteus minimus. A secondary general tuberculosis appeared also to have occurred; for a chain of enlarged and hard glands extended up the pelvis to the lumbar spine, and there was a recent deposit of tubercle in the lungs and spleen. A second case is mentioned, in which also the muscles of the pelvis and hip contained numerous deposits of tubercle.—*Lancet*, May 4, 1878.

—

On Changes in the Sympathetic Nerve in a Case of Diffuse Eczema.

In *L'Imparziale* for January 31, Dr. G. MARCACCI relates an interesting case. A man aged 70 was admitted into hospital under the care of Dr. Michelacci, apparently suffering from acute diffused eczema, which was attributed to exposure and rain during many hours in succession in January 1877. His health had previously been good; he was seized with a heavy pain in the head, and the scalp became covered with a thick furfuraceous layer, which gradually spread over the whole cutaneous surface. There never was the slightest fever, no visceral change, nor constitutional fault. During the first days of his stay in hospital, purgatives were given to relieve constipation, and the skin was sprinkled with powdered starch and charcoal. Considerable improvement followed, but on March 10 a copious exudation of lymph and serum set in in the region of the chest, and produced rapid emaciation. He died of congestion of the lungs on April 1. A necropsy, made by Dr. Brigidi, gave the following results.

The surface of the skin was covered with fine black crusts, due to the finely powdered charcoal, and was divided by clefts, at the bottom of which the rete mucosum was plainly seen, of a red colour. The subcutaneous layer of fat was very thin. The left pleural cavity contained 385 grammes (about 13½ ounces) of clear serum; the left lung was healthy. There was red hepatization of the superior lobe, and of the upper part of the inferior lobe of the right lung. The abdomen presented nothing worthy of note. On microscopic examination of the skin, there was found to be great hyperæmia of the dermis, but no irritation in the connective tissue. The horny layer of the epidermis had disappeared in many parts; the Malpighian layer was thinned, and the Malpighian cells were more granular than in the ordinary state. In the spinal cord and medulla oblongata the nerve-fibres and cells were normal; the bloodvessels were much injected. The cervical and cœliac ganglia were the seat of hyperæmia, visible to

the naked eye, and still more apparent in microscopic sections. Preparations immersed in a mixture of distilled water and glycerine, without the addition of acetic acid, showed an excessive number of nuclei. The nerve-cells were reduced in size by the lateral pressure of the masses of nuclei, their protoplasm was turbid, and an abundant red granular pigment occupied the intercellular spaces.

Dr. Marcacci observes that the changes in the ganglia demonstrated the existence in them of a process of irritation, probably of inflammation. He remarks that while, in the hitherto known description of cutaneous lesions associated with changes in the nervous system, the nervous lesions have always been found in the centres, or in the peripheral nerves dependent on them, no mention has been made of the changes in the sympathetic. He leaves the explanation of the dependence of the skin-disease on the changes to be settled by the observation of facts, and by greater advances in the physiology of the sympathetic system.—*Lond. Med. Record*, April 15, 1878.

—

Skin Diseases Treated by Chrysophanic Acid.

Professor NEUMANN, of Vienna, has recently communicated to the *Wiener Medizinische Presse* his experiences of Goa powder and chrysophanic acid in the treatment of psoriasis, herpes tonsurans, and pityriasis versicolor. He appears to have thoroughly tested the efficacy of these remedies, and the conclusions at which he arrives are fully justified by the reports of his cases. As a general prescription, he recommends an ointment composed of chrysophanic acid, ten grammes, simple cerate liquefied by heat, forty grammes, with ten drops of oil of bergamot. Before applying the ointment he scrapes the epidermis with a sharp spoon, so as to remove the scales; and if the diseased spots are very extensive he prescribes warm baths, the application of benzole and lotions of bicarbonate of soda as preliminary measures. After the scales have been removed, the ointment is rubbed in with a dossil of lint, and in cases where the integument is much infiltrated, an effect is more rapidly produced by spreading the ointment on strips of linen and keeping it in contact with the diseased parts. In slight cases the affection begins to disappear after three or four applications. Preliminary treatment is unnecessary for herpes tonsurans and pityriasis. Dr. Neumann's conclusions are that chrysophanic acid is superior to any other known remedy for the treatment of these affections, and he regards it as the most valuable addition which has been made for many years to our cutaneous materia medica.—*Med. Examiner*, May 2, 1878.

—

Relation of Ichthyosis to Membranous Dysmenorrhœa.

In the *Annales de Gynécologie*, December, 1877, Dr. GAUTIER draws attention to the association of ichthyosis with membranous dysmenorrhœa. Bernutz, Siredey, and others have noticed that dysmenorrhœa membranacea affects more commonly those persons of anæmic, debilitated, scrofulous, or tuberculous diathesis. Dr. Gautier regards the ichthyotic disposition of the mucous membrane of the uterus as incurable. The treatment for the dysmenorrhœa is to procure an easy exit for the membranous masses which have to be expelled. Dr. Gautier notes the fact that ichthyosis is hereditary, and that there is a strong presumption in favour of dysmenorrhœa membranacea being hereditary.—*London Med. Record*, April 15, 1878.

Surgery.

Diffusion of Cancer along the Nerves.

Dr. COLOMIATTI relates (*Revista Clinica di Bologna*, and *Lo Sperimentale*, March) a case which occurred in Dr. Spantigati's practice in the Hospital of St. John, in Turin, in support of his theory of the manner of diffusion of cancer.

The subject was a man, aged 40, who had apparently been always healthy, but in whom, after intense neuralgia in the part of the left cheek corresponding to the lower molar teeth, a tumour grew from the inner side of the gum, at the seat of pain. The tumour, which increased rapidly, was diagnosed by Dr. Spantigati as cancerous, and was removed, along with the portion of the lower jaw extending from the left canine tooth to the temporo-maxillary articulation. Surgically the operation was successful, and the wound soon healed completely; but, after remaining some time in hospital, the patient was obliged to return to his home, still suffering severely from acute pain, which was only temporarily relieved by subcutaneous injections of morphia.

The tumour, with the bone removed, was presented to Dr. Colomiatti for examination. It was lobulated, and nearly as large as a hen's egg. It contained in its substance the dental nerve, which, however, could be followed for more than four-fifths of an inch before its entrance into the dental canal. Along with the tumour a suprahyoid lymphatic gland was removed, as it was somewhat hard.

After a careful examination, Dr. Colomiatti was led to agree with Dr. Spantigati as to the carcinomatous character of the tumour. Its origin from the epithelial covering of the gum, at a point corresponding to the molars, explained, in his opinion, the dental neuralgia which preceded its appearance.

Dr. Colomiatti next turned his attention to the dental nerve, the posterior portion of which seemed to be more voluminous than normal. Sections of the portion comprised in the tumour presented remarkable changes, in explanation of which Dr. Colomiatti refers to the view held by Robin, Key and Retzius, etc., according to which two forms of connective tissue enter into the formation of nerves—viz., the epineurium, and the perineurium with its appendage, the endoneurium.

The epineurium connects the funiculi, which form every nerve-trunk; the perineurium and endoneurium form an integral part of each funiculus. Their connective tissue consists of small membranous films, between which are the so-called perineural and endoneural lymph-spaces, which, however, have nothing to do with the common lymphatic system. These membranous films, the endoneural membranes, which proceed from the perineurium, surround the nerve-fibres. Each nerve-fibre is thus suspended in a lymph-space.

In the case now under consideration, Dr. Colomiatti states that he found, on making section of the dental nerve, an abundant cancerous infiltration, diffused along the perineural and endoneural spaces, the perineurium presenting solutions of continuity, due to the invasion of the epineurium by the cancer-cells.

Dr. Colomiatti says that this is the second case in which he has observed the diffusion of cancer in the inferior dental nerve. There is, however, a difference between the two cases. In the first (cancer of the lower lip), the disease was diffused by the lymphatic vessels belonging to the neighbouring glands; while, in the present case, the gland which was removed, in consequence of being hard and probably cancerous, was found, on examination, to contain no cancer-cells, and the diffusion of the disease had taken place solely along the nerve. This sup-

ports the idea of Colomiatti, that the nerve may become diseased before the lymphatics, and independently of them; the lymphatics become infected later, and, when they do, the disease proceeds more rapidly. In this case it was observed that the anterior portion of the nerve, which was examined, had no cancer-cells in its lymph-spaces; hence he infers that the diffusion took place centripetally.

The persistence of the severe pains, in spite of the complete removal of the tumour with the neighbouring parts, is ascribed by Dr. Colomiatti to the diffusion of the disease along the nerves; and he advises that, before undertaking an operation in such cases, the state of the nerves should be observed.—*London Med. Record*, April 15, 1878.

—

On Transmission of Syphilis by a Bite.

In the *Allgemeine Wiener Medezin Zeitung* for January 8, Dr. ZEISSL reports a case in which syphilis was communicated otherwise than through the genital organs. A joiner, aged 28, was admitted on October 9, 1876, into the syphilitic department of the General Hospital in Vienna, having suffered from syphilis for eight weeks. The genitals were perfectly free from signs of specific lesion, present or past, and the neighbouring lymphatic glands were unaffected. The patient had, on the surface of the body, numerous brownish cicatricial depressions, evidently the results of a pustular syphilitic. On further examination, the dorsal aspect of the left thumb, over the metacarpo-phalangeal articulation, showed a depressed, still partly infiltrated, hard, hyperæmic, irregular cicatrix as large as a bean. In this part, he said, he had been bitten on June 4 by a drunken companion, in an attempt to prevent him from making a noise in the street, by placing his hand over his mouth. The wound had healed readily, but broken out again spontaneously four weeks after healing. The epitrochlear gland of the left arm was still markedly enlarged at the time when the patient was seen; that of the other arm was normal. It was proved that the man who inflicted the bite had a syphilitic sore of the mouth. Tincture of iodine was given internally, but, on October 11, he complained of severe cough; and, on examination, infiltration of the apex of the right lung was detected. The iodine was stopped, cod-liver oil was administered, and mercurial inunction employed. After twelve inunctions, the patient was, on October 24, apparently nearly cured of the syphilis, and was transferred to the medical wards, to be treated for tubercle.—*London Med. Record*, April 15, 1878.

—

Treatment of Ulcers.

Dr. MANDELBAUM, of Odessa, remarks (*Berl. Klin. Wochenschrift*, March 11) that after trying in vain all the usual methods of treatment in ulcers, he found ulcerations of all kinds, and in all situations, yield to the treatment by means of the scraper (of Hebra), iodoform, and equal parts of mercurial and soap plasters. If the ulcer be very deep, the destruction of tissue considerable, and the edges jagged, callous, or indurated, it is first thoroughly cleansed with the scraper down to the sound base. This is then daily covered with a thick layer of iodoform until healthy granulations form; and they invariably do form. Then, when the sore has filled in, and its base risen to the level of the surrounding skin, it is dressed with equal parts of mercurial and soap plaster spread evenly on soft linen. If the ulceration be less severe, and only covered with a thick layer of pus, iodoform alone, without previous scraping, is sufficient to produce healthy granulations. This treatment has, in Dr. Mandelbaum's hands, cured ulcers of all kinds, and which had resisted for many years all other means.—*London Med. Record*, April 15, 1878.

Case of Gunshot Wound of the Brain.

Dr. Rossi relates in the *Annali Universali di Medicina e Chirurgia* for December, 1877, the case of a lad, aged 16 or 17, who, having bought a revolver, was one day amusing himself by shooting at a target with one of his friends. After discharging some shots, he recharged the weapon and drew the trigger, but it would not go off; he therefore looked down the tube, when the revolver exploded suddenly, the ball striking the upper part of the left eyelid, just outside the groove for the passage of the vessels and the supra-orbital nerve, fracturing the frontal bone, and entering the brain.

At first only the immediate local symptoms were observed; but the next morning the right arm was painful and paretic, and there was an appearance of brain-substance at the orifice of the wound. In conjunction with Dr. Rouge, Dr. Rossi made an incision about an inch and a quarter upward, when the pulsations of the cerebral matter, isochronous with those of the heart, were distinctly discerned, and there was found to be a radiated fracture of both tables of the frontal bone immediately above the orbital arch. Through this a probe could be easily introduced to a depth of five centimetres (two inches) in an oblique direction, from below upwards, and from before backwards, without coming into contact with the projectile. Ice was applied, and six leeches behind the left mastoid process.

Contrary to all expectation, the pain and paresis of the right arm soon disappeared; the cicatrization of the wound took place without necrosis, and almost without suppuration; and the patient was well in a few days.

The author, assuming it to be certain that the bullet entered the brain, asks in what part of that organ it could be lodged, there being no nervous disturbance, either paretic or paralytic.—*London Med. Record*, March 15, 1878.

The Influence of the Uterus in Eye Disease.

Dr. H. R. Swanzy, Prof. of Ophthalmic and Aural Surgery, Royal College of Surgeons, Ireland, at the Obstetrical Society of Dublin (*Obstetrical Journal of Great Britain*, May, 1878), read an interesting paper on this subject. He said that one of the greatest efforts of modern ophthalmology has been directed towards bringing this branch of medical science into intimate relation with the others. At the present day, indeed, there are few eye diseases which we recognize as purely local affections. While they require special local treatment, most of them demand attention also to some constitutional defect, or some disease situated, perhaps, in a distant organ. Thus we know that eye diseases may have their starting-point in the heart, kidneys, or spleen. The visual organs may be affected in tuberculosis; they often suffer in diseases of the nervous and vascular systems; and I need hardly say how frequently they become diseased in syphilis and struma. This evening, by the kind permission of the Council of the Society, I propose to occupy your attention for a short time in considering the influence of the uterus in eye disease.

At the very outset I must explain that the subject is by no means a completely developed one. It is a very wide one, and its investigation is surrounded by many difficulties. Not the least of these is the circumstance that very few ophthalmologists are at the same time experienced in gynæcology, and that it is also rare to find a gynæcologist who knows anything of ophthalmology. Still the influence of the uterus in eye disease is every day attracting more attention amongst oculists, and we may hope that before many years have gone by we will be in possession of a number of well-authenticated facts which will teach us how far this causal relation between diseases of the uterus and the eye exists, and will enable us to un-

derstand in what way it comes about. At present we possess some facts only, while much of the subject remains hypothetical. If we could enlist the interest of gynæcologists in the matter much more rapid progress would be made, and it is partly with this object that I come before you to-night. In what I am about to say I shall not confine myself to my own experience for material, but I shall draw on the observations of others also, in order to present you with as complete a view of the question in its present stage as is compatible with the time at our disposal.

The first disease which I shall bring under your notice, as probably having its primary cause in the uterus, is iritis occurring in young girls from about the eleventh to the seventeenth year of age—say within a period varying from two to three years prior to the establishment of menstruation up to two or three years after they commence to menstruate. I am much interested in these cases, because, so far as I am aware, they form a point of connection between the uterus and the eye which has not long before been pointed out. I am aware, however, that others besides myself have observed this connection, for while lately in Paris I learned in conversation with a distinguished oculist there that his experience had led him to form a similar view on the subject. The whole number of these cases which I have seen is seven. It may seem few, but the smallness of the number is accounted for by the fact that I have not seen a single case of the kind in hospital practice. These patients seem always to enjoy good general health, and, so far as I have been able to ascertain, they did not suffer from any serious irregularity in the uterine functions, should that organ have come to maturity. The most I have detected has been a somewhat insufficient menstrual flow. I am unable, therefore, to connect the disease of the eye positively with a disease of the uterus, but I am inclined to regard the uterus in some way as the starting-point of the iritis for these reasons: (1) Iritis is extremely rare at such an early time of life, unless as dependent on congenital syphilis, or as secondary to corneal diseases. (2) I have never seen a case similar to those I speak of in the male; and, therefore, (3), when one finds it to occur with a certain frequency at the time of life when the uterus is approaching maturity or has lately reached it, and when one is able to exclude all other causes, the inference is a fair one that the uterus in some way has given rise to the iritis.

The form of iritis is similar in all these cases; there is usually little or no pain, and but little vascular injection of the eye or photophobia. The anterior chamber usually remains clear, and there is no deposit on the posterior surface of the cornea. There is a great tendency to the formation of posterior synechiæ, and the stroma of the iris in bad cases becomes indistinct and discoloured. The vitreous humour is very liable to become cloudy, showing that the cases are not ones of simple iritis, but that the ciliary body and choroid are implicated. Perhaps, indeed, it would be more correct to describe these as cases of irido-choroiditis. In some of the cases I have seen it was the dimness of sight caused by these opacities of the vitreous which first induced the patient or her parents to seek advice. The affection is very slow in its progress, very difficult of cure, and very liable to recur.

One of the most serious cases of this kind which I have observed is at present under my care. I shall not impose the whole history of the case upon the Society, but shall briefly refer to its principal features.

On 5th of July last I was consulted by the parents of a particularly healthy-looking young lady, aged sixteen, on account of her defective vision. In the right eye was the form of irido-choroiditis which I have described, and in the left eye there was optic neuritis. The sight of the right eye was reduced to the power of counting fingers at eight feet; but neither the patient nor her friends were aware of any defect in the functions of the left eye, the one with optic neuritis, although its vision was only a little more than one-third of what it should

have been. She had first complained of her sight about two months before I saw her. Five months previously the menses had remained absent on the occasion, and at that time she had a bleeding from the nose. Since then the menstruation had been regular as to time, but the mother seemed to think the flow not quite as abundant as in girls of her age and of such full habit. She was particularly subject to headaches, but it had not been remarked that they were more severe at or about the menstrual period. Since she has been under my care, I think I have noticed that the headaches are more severe at that time. After remaining in town for six weeks, the patient had so far recovered as to be able to return home. She had not been at home for more than ten days, when, while stretching up to nail a picture on the wall, she found the sight of the left eye suddenly become dim. She was at once brought back to me, and the ophthalmoscope displayed an enormous hemorrhage situated probably between the retina and choroid. The right eye had also relapsed, the vitreous humour being very much more clouded than when I had last seen her. At present the sight of the eye in which the hemorrhage occurred is extremely imperfect, owing to a detachment of the retina which has resulted. The sight of the right eye is tolerably good, and if I can save it for her I shall think myself extremely fortunate in the case. We have in this case three diseases of the eye—irido-choroiditis, optic neuritis, and intra-ocular hemorrhage. It was to give an example of the first of these that I brought forward the case in this part of my paper; but the two other affections are also recognized as sometimes the consequence of disordered uterine functions, as I shall show further on. Fortunately it is a rare thing to find them all combined to destroy vision as in this instance, especially in so young a person.

The treatment which I have usually adopted in these cases of iritis has been chiefly local during the acute stages of the inflammation—atropine, warm fomentations, etc. After the acute inflammation had subsided I have given tonics, especially iron. In the case I have just alluded to, the treatment was very various according as the symptoms demanded. For a long time, although I was fully convinced of the connection between the eye trouble and an imperfect menstruation, yet treatment could be only partially directed towards the uterus, owing to the necessity for promoting absorption of the intra-ocular hemorrhage by a horizontal position for several weeks. Such confinement to the house is not, I conceive, well calculated to improve the uterine functions. However, aloetic purgatives were administered with bromide of potassium. Latterly iron has been given in place of the bromide. On the whole, the menstrual flow is now more abundant; but that this has had any great influence in producing restoration of a healthy condition within the eyeballs, I am unable to say. The most that I can believe to have been accomplished by the uterine treatment, if I may so call it, is that no very serious hemorrhage occurred again, nor any fresh attack of iritis.

Inflammation of the optic nerve and retina may depend on disturbances of menstruation. In the *Irish Hospital Gazette* for 1873 (p. 46) I published a case of neuro-retinitis in a girl, aged nineteen, whose menstruation was sparse and painful, and in whom the eye affection always became aggravated at the monthly periods. I observed another similar case, of which unfortunately I have lost the notes. Mandelstam[1] has seen many cases of optic neuritis where marked menstrual disturbances have gone before. Von Gräfe[2] recognized the existence of such a connection. Mooren[3] has seen cases of neuro-retinitis after suppression of menstruation, and he is of opinion that retroflexions of the uterus and ovarian tumours may give rise to the same affection.

[1] Klin. Beobacht. a. d. Augenheilanstalt zu Wiesbaden. 1866.
[2] Archiv f. Ophthal., xii., 2. [3] Ophthalm. Mittheilungen. 1874.

Retinal apoplexies are sometimes the consequence of cessation or suppression of the menses. Thus Liebreich, in his "Atlas of Ophthalmoscopy," gives a drawing of a retinal hemorrhage which occurred in a woman forty-five years of age, in whom menstruation ceased, and who had had it very abundantly up to that time. He mentions that he had several times observed the same ophthalmoscopic appearances under similar circumstances. Samelsohn[1] describes a case of absolute amaurosis after a sudden suppression of menstruation in a girl aged twenty-one years. There were no ophthalmoscopic appearances, and the probable diagnosis consisted in a hemorrhage into the optic nerve behind the globe. The patient was working in a cold stream during her menstrual period. The menses ceased at once, and on the evening of the same day vision began to be affected. In the course of five days the patient became stone blind. The treatment consisted of warm foot-baths, mustard poultices on the upper part of the thighs, emetics, and the application of Heurteloup's artificial leech to the temples. Later aloetic and iron pills were given. In twenty-four hours the sight began to recover, and in the course of eleven days the vision was again almost normal. Seven weeks after the sudden interruption of the menstruation it returned, and simultaneously the pains in the breast disappeared, with which she had been troubled since the loss of her sight.

Atrophy of the optic nerve has been noted repeatedly by Pagenstecher[2] as occurring in women who had suffered from severe menstrual disturbances (irregularity, early cessation), which he regarded as the cause of the eye disease.

I have now to speak of an affection of sight connected with uterine disorder which until lately has been classed among eye diseases, but which we now know to be nothing more than a symptom of a certain uterine disease. It is a form of asthenopia to which the name of Kopiopia Hysterica has been given. I have for some time been acquainted with this affection, but, like the iritis of which I have spoken, I have never seen it except in private practice. One of the first patients who consulted me was a case of this kind. I was extremely puzzled by it, never having seen anything of the sort before. Since then I have seen a considerable number of such cases, but only quite lately have I read the first description of the affection, along with an explanation of its cause. It has been described at length by Professor Förster, in his article in Gräfe and Sämisch's new Handbook of Ophthalmology, and the pathological conditions of the uterine apparatus which Professor Freund, of Breslau, has invariably found accompanying it are cited by Professor Förster. This article has been published within the current year (1877).

Patients suffering from the affection complain chiefly of inability to read, write, sew, or use their sight for any near work, owing to darting pains through the organs when they attempt to do so. The pains in and about the eyes, however, although increased by any use of them, are also present with greater or less severity at other times, and are intensified by anything which depresses the general tone of the patient, such as want of sleep, fatigue, sorrow, etc. The patients are troubled with photophobia, especially at night, when the lamps or candles are lighted. Indeed, many of them can bear the direct sunlight without inconvenience, when even a shaded lamp in the room in the evening will give them great distress. No organic disease of the eyes is present. Some hypermetropia or insufficiency of the internal recti may be found, and is likely enough for a time to mislead the surgeon. The eyes are never injected; there is no swelling of the lids; no epiphora. Professor Förster has remarked that the patients have good days and bad days, but that there is no regular interval between these variations,

[1] Berl. Klin. Wochenschr. 1875, p. 27.

[2] Klin. Beobacht., 1866.

and he has also observed that they are never kept awake by the pain of their eyes; and he says that shortly before and during menstruation the symptoms are usually more severe. These are points which I have not noted myself. One generally finds these patients endowed with the greatest volubility, the torrents of words with which they describe their ailment affording in itself a symptom of the disease. Very often they enter into the most curious details concerning their trouble. Thus one young lady assured me that there was only one book which she could read without suffering intense pain, and that was one particular copy of the Bible. She could read it for any length of time without the slightest inconvenience, but not even another copy of the same edition could she look at. I was told that there was nothing particular about this book; it was of the ordinary hand size. One of Förster's patients was compelled always to shut her eyes when passing through a doorway, as the draught brought on the pain, and another got a pain in her stomach whenever she attempted to read. Although in other particulars these patients might be termed "nervous," still they do not usually suffer from any marked hysterical symptoms apart from their eyes.

Professor Freund, of Breslau, has found by means of a large number of *post-mortem* examinations of women who have complained of these eye symptoms that they were uniformly affected with a certain uterine disease, which he claims to be the first to have recognized. It is a chronic inflammatory process, attacking the parametrium, and producing in bad cases atrophy of that tissue, with displacement of the pelvic viscera. It is liable to affect married and unmarried women at all times of life. Its course is a very chronic one, extending often over a period of several years, and treatment has little effect upon it. Painful regions may be sometimes found in the lateral cul-de-sac of the vagina; in the course of the broad ligament, and stretching towards the pelvic walls. There is often venous congestion of the vagina, with chronic metritis, catarrh, and ulceration. In less severe cases these local signs may be but slightly marked, and the recovery may take place in a comparatively short time. In none of the cases which have come under my care have I noted any of these pelvic signs; but I must acknowledge that I have seen but two or three rather imperfectly marked cases since I became aware of the nature of the affection. The best treatment consists, I think, in doing as little as possible in the way of medicine, but by attention to the general health to promote the cure, and by diverting the patients' attention from themselves to alleviate the symptoms. For the latter purpose there is, perhaps, nothing so useful as change of scene or foreign travel. Probably a foreign chalybeate spring would combine everything that could be desired in the treatment.

In the foregoing I have referred to five affections of the eye which seem to depend sometimes on uterine derangement—a form of iritis, neuro-retinitis, apoplexies of the retina and optic nerve, atrophy of the optic nerve, and an affection called kopiopia hysterica. It is more than probable that this list might be considerably extended, but we must be careful not to fall into the error of regarding every eye disease which happens to be concomitant with a derangement of the uterine functions as dependent upon the latter.

There are just now two girls in the National Eye and Ear Infirmary suffering from different eye diseases, each of them peculiar in its form. Both of these patients are very irregular in their menstruation, still I do not feel sure as to a connection between this and the eye troubles.

—

Extraction of Steel and Iron from the Eye by the Magnet.

The following cases, recorded by Dr. W. A. McKeown, Surgeon to the Ulster Eye, Ear, and Throat Hospital (*British Med. Journal*, May 4, 1878), will be

of interest taken in conjunction with that recently brought before the Clinical Society of London by Mr. McHardy.

CASE I.—Dawson B., aged 24, smith's helper, applied to me at the Hospital on January 16, 1877. He stated that, three days previously, his right eye had been wounded by a small piece of metal. I observed that the iris was attached to the lens at the outer part of the pupil by recent lymph, and that there was a small limited opacity of the lens. There was a small, clear, metallic body sticking at the margin of the adherent pupil. I made a small section of the cornea, more peripheral than the pupil, introduced a pair of iridectomy forceps, seized the body and a little piece of iris, but the body slipped from my grasp, and was sliding out of my reach. Fortunately, I had anticipated such an untoward event, and took care to have a pointed permanent magnet at hand. I introduced it into the wound. The metal was instantly attracted and extracted. The patient continued under my observation till February 16. The opacity of the lens remained limited to the point wounded. I believe that the wound in the capsule was closed by lymph and healed. I have not seen or heard from the patient since.

CASE II.—Moses E., aged 32, millwright, consulted me at the Hospital on November 20, 1877. He stated that, three-quarters of an hour before his visit, his right eye had been wounded by a chip of steel from a hammer. I observed a wound a little more than a line long in the ciliary region just at the corneo-sclerotic junction. One end of the wound penetrated the anterior chamber, as shown by the evacuation of the aqueous humour and a slight displacement of iris towards the wound. The wound was quite clean, and no foreign body was visible. The media were clear. The ophthalmoscope did not disclose the presence of any foreign body. I put the point of the magnet cautiously into the wound, and at once it proved the presence of metal within the sclerotic by the click and the attraction. By a little patient and careful use of the magnet, the metal was brought into the wound, and the end of it exposed so far as to enable me to grasp it with forceps. Having caught it, I easily extracted it. The fragment was a thin piece about one and a half lines long, one line in width at one end, and half a line at the other end. The patient recovered completely, and returned to work on December 10th following.

There can hardly be a doubt that the magnet saved the eye in both cases. In the first case, to have followed the sharp fragment with forceps would probably have inflicted irreparable damage, and indeed the body might have got out of the way altogether. In the second case, the metal would but for the magnet probably have remained undetected, and have afterwards lighted up destructive inflammation. Even had it been detected, it would not have been possible, but for the magnet, to extract it without enlarging the wound, and that is not desirable in any part of the eye, much less in the ciliary region. By the magnet, the diagnosis was established, and the extraction was accomplished in the most delicate way.

—

Syphilitic Interstitial Glossitis.

Dr. C. MAURIAC has published an account of this affection (*Le Progrès Médical*, 1877, No. 45), which is in character similar to syphilitic sarcocele, and consists of an inflammatory induration of the fibrous partitions separating the muscular fasciculi of the tongue. It begins always on the dorsal surface, at first being superficial, and then invading the deeper tissues. It is more frequently met with in men than in women. There appear to be a hypertrophic and an atrophic period. In the former the enlarged, hard, and painful tongue presents on the dorsal aspect hollow furrows filled with macerated epithelium. There are noticed large papillæ, and often ulcerations, at the points where the tongue touches the

teeth, or in the bottom of the above-mentioned furrows. The second stage is that of retraction of the new tissue, and then there is a deep antero-posterior fissure, with several irregular fissures. Finally, as atrophy progresses, the organ becomes smooth and shining, is divided into little lobules, and gives the sensation of a tongue made of wood. Specific treatment is seemingly of some service in the early stages, but is entirely useless when the disease is advanced.—*London Med. Record*, April 15, 1878.

—

Syphilitic Disease of the Nose.

In the *Vierteljahrschrift fur Dermatologie und Syphilis*, Band iv., Heft 1 and 2, SCHUSTER and SÄNGER recommend the use of the scraping spoon for the removal of syphilitic growths of the nasal cavity, to prevent falling in, and to arrest the disease process. Even perforation of the palate by scraping is at times the lesser of two evils. Artificial illumination should be used. Pathologically the conditions existing vary. There may be—1, simple syphilitic infiltration, the mucous membrane not hypertrophied, with or without alteration of the glands, capillaries, or epithelium; 2, the same, with hypertrophy of the mucous membrane and constriction of the dilated capillaries, by means of cell-growth, or, without this, a fact favouring the views of Auspitz and Unna, upon the anatomy of the initial induration, namely, that the vessels remain, as a rule, unobliterated; 3, more severe infiltration of the mucous membrane, passing into syphiloma; 4, syphilomata of the mucous membrane or condylomata. The subjacent bones and cartilages may show either necrosis with exfoliation, absorbent inflammation, without loss of the mucous membrane, or plastic osteitis, with the production of spindle-cells and connective tissue, passing into bony formations.

The practical points are these: 1. Whereas, ulceration of the mucous membrane has been held by writers to be the sole cause of ulceration of the bone and cartilage of the nose, this need not be the case. That membrane may remain uninjured while the subjacent tissues undergo changes like those of the tibia or frontal bone. 2. A healthy mucous membrane may be caused to ulcerate by mechanical interference, and then this ulceration may extend to the bones, or the disease in subjacent bones pass over to the injured membrane.—*London Med. Record*, April 15, 1878.

—

On Circumcision by the Galvanic Cautery.

Dr. BONA relates three cases in No. 20 of *L'Independente* for 1877.

A boy, aged 6, had a tumour of the size of a nut, formed of the gland and prepuce, which had undergone degeneration, and were fused into a single body. Dr. Bona diagnosed lardaceous degeneration of the prepuce, with adherence to the glans—the result of a foul ulcer of several months' standing. With the galvanic cautery a clear section was made compressing almost the whole of the changed prepuce without the loss of a drop of blood, and with but little pain. Water dressing was subsequently applied; there was no constitutional reaction, and the patient was soon well.

In the second case, a child, aged 7, had œdematous phimosis and urethral fistulæ at the base of his penis, in consequence of two of his companions having tightly tied a stout hempen thread round the organ. In consequence of the obstruction presented by the phimosis to the passage of a catheter, which was necessary for the treatment of the fistulæ, Dr. Bona performed circumcision by the galvanic cautery, with but little pain, and with no hemorrhage, removing more than a centimetre (0.4 inch) of the prepuce.

The third case was one of congenital phimosis. A centimetre of the prepuce

was removed by the galvanic cautery, with a successful result.—*London Med Record*, April 15, 1878.

—

On the Treatment of Congenital Hydrocele by Injections of Alcohol.

Dr. Francis Labat has observed in Dr. Launclonque's wards, the good results obtained in the cure of congenital hydrocele by injections of alcohol according to Monad's method. The following plan is pursued (*Thèse de Paris*, Nov. 19, 1877). With a subcutaneous injection-syringe, one gramme of the serous matter contained in the hydrocele is evacuated, and one gramme of alcohol injected with the same syringe. In the mean time, pressure is made on the inguinal canal, and prolonged some minutes after the alcoholic injection.—*Lond. Med. Record*, April 15, 1878.

—

On the Treatment of Severe Arterial Hemorrhage from Punctured Wounds of the Throat and Neck, especially considered with regard to Ligature of the External Carotid Artery.

Mr. Wm. Harrison Cripps read a paper upon this subject at a late meeting of the Royal Medical and Chirurgical Society (*Lancet*, May 4, 1878). He discussed the treatment to be adopted in cases of severe arterial bleeding, that have resisted all simple means, and in which operative measures become necessary. The class of cases include punctured wounds about the angle of the jaw and through the mouth, hemorrhage from the tonsils, or from cancer of the tongue or mouth, and secondary hemorrhages after surgical operations, etc. The treatment usually adopted in these cases has been a ligature upon the common carotid. Upon analysis of a considerable number of cases, it is found that, after this method of treatment, rather more than half the patients die. The causes of these deaths are approximately as follows: Rather more than 30 per cent. from brain symptoms; rather more than 30 per cent. from recurrence of the bleeding; and 30 per cent. from other causes. It thus appears that one-third of these deaths are directly due to ligature of the carotid, and that in another third the operation had proved useless for arresting the bleeding. The brain symptoms appear to result from the already anæmic brain having a considerable portion of its blood-supply suddenly cut off. Hemorrhage, occurring from the original wound (after ligature of the common trunk) must either be due to the blood coming as a regurgitant stream brought down the internal carotid, or by blood being brought through the fine anastomoses of the terminal branches. Experiments and facts narrated in the paper show that in a certain number of instances the bleeding is due to a regurgitant stream through the internal carotid, or to blood brought to the proximal end of the wounded vessel by the inferior thyroid. A table accompanying the paper shows how the bleeding vessel, wounded in the situation described, has most commonly proved to be the external carotid, or one of its branches, a wound of the internal carotid being of rare occurrence. Having discussed the cause of the high mortality following ligature of the common carotid, ligature of the external carotid, about half an inch from the bifurcation, is recommended as likely to prove a safer and more efficient method of controlling the bleeding. The grave danger of cutting off the blood supply to the brain is avoided by this operation, while, at the same time, the chance of recurrent hemorrhage is diminished in proportion to the number of instances in which it occurs as a regurgitant stream. The objections raised to the operation are: (1) the fear of secondary hemorrhage from the proximity of large branches; (2) that, should the wounded vessel prove to be the internal carotid, a ligature upon the external would be a useless operation. The first objection is answered by reference to cases narrated by M. Guyon, showing the rare occurrence of secondary

hemorrhage from the external carotid. The second, by the comparatively few instances in which the wounded vessel has proved to be the internal carotid. Moreover, should the mistake occur, it is not beyond remedy, for a ligature might still be placed on the common trunk at its bifurcation; on the other hand, no remedy can be found for a patient dying in a comatose condition caused by obstructing the internal carotid on account of a wound of the external carotid or one of its branches.

Mr. Holmes only recalled one case of punctured wound in the neighbourhood of the tonsil in which the internal carotid was thought to have been invaded, and ligature of the common carotid was had recourse to. If in such cases it were certain that the wounded vessel was not the internal carotid, but a tonsillar branch of the external carotid, then clearly it was right to tie the latter vessel by preference. Mr. Cripps' argument was forcible, that the same incision made to expose the external carotid would serve also to secure the common trunk, supposing the first ligature failed to arrest the bleeding.

Mr. M. Baker had tied the common carotid in a case of hemorrhage in the neighbourhood of the tonsil, from an injury by a tobacco-pipe. The patient died from the loss of blood rather than the operation, and the ascending pharyngeal was found to have been the vessel wounded, showing that in such a case ligature of the external carotid would not have succeeded. Still, for the majority of cases the suggestions of Mr. Cripps were of value.

Mr. H. Cripps, in reply, said that in his collected cases only seven or eight were of wounds within the mouth, the majority being wounds behind the jaw. Wounds of the internal carotid were very rare, even in injuries in the neighbourhood of the tonsil, the tonsillar branch of the facial artery lying more superficially than the internal carotid, which, out of five cases, had been found post mortem to be wounded only in one.

—

On a Case of Ununited Fracture.

In the *Deutsche Medicinische Wochenschrift*, March 2, 1878, Dr. MAX SCHÜLLER, of Greifswald, relates a case of subperiosteal resection, with subsequent suture of the periosteum, on account of an ununited fracture produced by interposition of a tendon between the fragments.

Dr. Schüller observes that the employment of antiseptic precautions must materially change the opinions formerly entertained as to the danger of resecting the ends of the fragments in ununited fracture. Hence, of late years, we find this mode of treatment very frequently resorted to, amongst others by Volkmann, Bardeleben, and Langenbeck. The value of this method of treating false joint, as compared with the many others from time to time practised, is, the author considers, yet to be determined. As a partial solution of the question, Dr. Schüller has published this case.

Frau H., 40 years of age, a healthy vigorous woman, sustained a fracture of the leg from the wheel of a heavily laden wagon passing over it. Gypsum bandages were immediately applied, but, after eight weeks' treatment, no consolidation had taken place, and no formation of callus could be felt. A fresh trial of plaster of Paris bandage was now made, and a three per cent. solution of carbolic acid was injected from a hypodermic syringe near the seat of fracture; a plan recommended of late years by Professor Hueter for the treatment of cases of delayed or non-union. Six months were consumed in various trials, and, at the end, there was not the slightest degree of union. An operation was then decided upon. A careful examination showed a marked interval between the fragments, so that pegging was not thought suitable. An incision, two and a half inches long, was

therefore made, the seat of fracture exposed, and the periosteum raised from the ends of the bone, which were rounded, while between them passed the tendinous termination of the tibialis anticus muscle. There was not a trace of bone-proliferation. The muscle was now restored to its proper position, and the ends of the bones cut off, partly with the saw, and partly with the chisel, to the extent of a centimètre from each. After forcible traction, the fresh surfaces of bone could be accurately adjusted together, the fibrous connection of the broken ends of the fibula being divided simply with the knife, but the bone not otherwise interfered with. As the fragments of the tibia showed no tendency to separate, ivory pegging, or silver-wire suture, was not employed, but the carefully preserved periosteum was accurately united by fine catgut sutures, a small opening only being left to allow a fine drainage-tube to pass between the bones. Another and larger drain was passed outside the periosteum, and through a counter-opening made in the calf. The skin-wound was now sutured with catgut, the limb enveloped with salicilized jute, and a gypsum bandage, reaching over the knee, was applied. The whole operation was performed with strict antiseptic precautions. Except the day afterwards, when the temperature rose to 38.5° C. (101.3° F.), there was never any fever. The whole dressing, plaster of Paris bandage included, was changed every few days at first; then a window was made in the plaster, and the dressings of the wound alone renewed. The external wound healed by first intention, but a slight discharge continued for a long time from the interior. A small fragment of bone subsequently exfoliated, and then immediate and thorough healing followed; and, at the end of four months, complete consolidation had taken place, in good position, and with a shortening of only half a centimetre at the outside. The author preserved the periosteum in this case with the greatest care, believing it has the chief part in the act of union, the endosteum somewhat less, and the bone-substance proper very little. The plan of pegging, he considers, has its principal result in fixing the fragments. He believes little in its power of exciting proliferation of bone when employed under antiseptic precautions, which accounts, in his opinion, for several recent failures of this method. In cases, therefore, where resection of the ends of the bone is indicated, he would perform the operation subperiosteally, accurately unite the margins of the divided periosteum, and only use pegs where necessary to maintain the fragments in apposition, and at rest.—*London Med. Record*, April 15, 1878.

—

Two uncommon Forms of Dislocation.

Mr. A. W. Mayo Robson, Demonstrator of Anatomy at the Leeds School of Medicine, records (*British Med. Journal*, April 6, 1878) two interesting cases, one of dislocation of the jaw occurring during an attack of hysteria; the other, of dislocation of the sternal end of the clavicle upwards.

"I was called to see a woman aged 30, said to be in a fit. On arriving at the house, I found her in an hysterical attack, and ascertained that she had received news of a severe family trouble a few hours previously. A curious symptom in the case was, that she violently worked the jaw, and would persist in doing so despite being sharply spoken to and treated freely with cold water. Whilst I was observing her, the jaw suddenly became fixed widely open and displaced obliquely towards the right side. She instantly began to scream violently, and applied her hand to the injured part. I need scarcely say that the hysteria vanished as if by magic. I replaced the jaw in the usual manner, and applied a four-tailed bandage. After being put to bed, she had a return of the paroxysms, and again worked the jaw; but this time the bandage prevented displacement. The next day, beyond a considerable degree of stiffness, nothing abnormal was

found. I then ascertained that she had never had dislocation of the jaw on any previous occasion. My reason for recording the case is, that I find no mention made of any similar one either in Hamilton on *Fractures and Dislocations* or in Holmes's, Erichsen's, or Bryant's works on surgery.

"The history of the second case is as follows. I was called on September 27, 1877, to see a grammar-school boy aged 15; the messenger telling me that he had put his shoulder out, having fallen undermost in a scrimmage at football. On arrival, I found him leaning towards the left side and supporting that arm with his right hand, any change of position giving great pain. On stripping the chest, the first sign that attracted my attention was a marked flattening of the left infraclavicular region. I then noticed a depression of the same shoulder; a very distinct prominence in front of the trachea just above the sternum; an absence of the natural projection of the left sterno-clavicular articulation, its place being taken by a depression in which could be felt the empty sternal socket. The tendon of the left sterno-mastoid was stretched tensely like the string of a bow, and the distance between the shoulder-tip and the middle line was an inch less on the affected side than on the sound one. There was no dyspnœa, and an entire absence of crepitus. My diagnosis was dislocation of the sternal end of the clavicle upwards, as the only accidents which might have simulated it were separation of the epiphysis and fracture; the latter being negatived by the absence of crepitus, and the former by the fact that ossification does not take place in the epiphysis till the eighteenth or twentieth year. Reduction was easily effected by drawing the shoulders backwards and raising the arm. I tied a handkerchief round each arm near the shoulder, and looped them together firmly behind; placed a pad in the axilla; pressed the elbow inwards by means of a bandage round the chest, inclosing the arm; and supported the elbow and forearm in a sling; after which the symmetrical appearance of the chest returned. In the after-treatment, there was a great tendency for the sternal end of the clavicle to slip upwards, as the boy, being unusually active, always contrived to romp about and loosen the bandages as soon as his attendant's back was turned. Although the appliances were continued for three weeks, and a figure-of-eight bandage for a fortnight longer, yet at the end of that time the sternal end of the clavicle remained about half an inch above its usual level; but the functions of the limb seemed to be in no way impaired. The only cases I can find on record of a similar nature are four quoted by Malgaigne, two by Bryant, one by Dr. Rochester of Buffalo, and one by Hamilton."

—

A Case of Traumatic Resection of the Scapula.

Dr. KNAUTH reports (*Berliner Klinische Wochenschrift*, March 18) the case of a boy 10 years of age who was seized on the 22d of February last by the fly-wheel of a chaff-cutting machine. The knife of the machine cut through the soft parts under the scapula, and also through the neck of that bone itself behind the coracoid process. The entrance wound was about seven inches long, the wound of exit about five inches. The edges of the wounds were stitched together, and carbolic acid dressings applied. For three days the patient's condition remained satisfactory, but then gangrene set in, and, in six days, destroyed the soft parts, laying the scapula almost bare. The bone was easily removed, and, under carbolic acid dressings, the wound healed kindly, accompanied by but little fever, and a rise in temperature to 103.6° F., leaving an extensive cicatrix and an open sore of the size of a five-shilling piece, which may require a plastic operation for its complete closure. The extent to which the movements of the arm may be affected by so great an injury, cannot yet be determined.—*London Med. Record*, April 15, 1878.

Iodine Injection of the Knee-joint.

Dr. ORLOW states (*St. Petersburg Med. Woch.*, April 6) that he has performed this operation in ten cases—in eight on account of chronic serous effusion, and in two for purulent collections. In none of them did any ill effect result, the patients being at once dismissed after the injection had been made. Two of the cases occurred in children, and the others in persons aged from twenty-six to forty-five. Seven were females, and three males. A trocar (about double the thickness of an exploratory trocar) was employed, the puncture being made at the outer side above or below the patella, according to the amount of distension, anæsthetics never having been employed. The discharged fluid varied in amount from four ounces to four drachms. The injection consisted of one drachm of the tincture of iodine of the Russian Pharmacopœia and three drachms of water. Some portion of this flowed out again after two or three minutes, and that which remained in the joint excited but slight temporary irritation, so that the patients were able to leave the dispensary on foot. The inflammatory condition of the joints was rapidly ameliorated, and during eight months no relapses have taken place, the only after-treatment resorted to having been closure of the orifice of the puncture by adhesive plaster.—*Med. Times and Gaz.*, May 4, 1878.

Midwifery and Gynæcology.

Report of a Case of Fallopian Pregnancy.

Dr. LAURENCE JOHNSON reported to the New York Academy of Medicine (*Med. Record*, April 27, 1878) a case of Fallopian pregnancy occurring in a woman æt. twenty-nine years, married, and the mother of two children aged respectively four and a half and two and a half years. She had always been healthy. Her last menstruation commenced on the 11th of February, 1878, and continued the usual length of time—three or four days. There was no evidence of pregnancy, except the non-appearance of the menses on March 11th. On March 23d, at about noon, she suddenly began to suffer from pain referable to the pelvic regions, became faint, and was put to bed. Small quantities of brandy were given at intervals, and she partially regained her strength, but in the evening there was a return of the faintness. She vomited once or twice, and had an evacuation from the bowels. The doctor saw her for the first time soon after the attack of fainting in the evening; found her very pale, with a feeble pulse, 140, but there was no discharge of blood from the vagina.

March 24. Patient appeared somewhat brighter; pulse somewhat stronger, but rapid. Urination without pain; abdomen somewhat tympanitic; tenderness all around the uterus, but especially upon the right side. Pain was not a prominent symptom at any time during the entire history of the case, although at no time was she markedly under the influence of narcotics.

25*th*. Patient sank rapidly, and was thought to be dying. She rallied, however, so that on March 26th she was comparatively bright. On the night of the 26th she sank and died, *four* days from her first attack of faintness.

Autopsy twenty-four hours after death. Pelvic cavity filled with blood. Ruptured cyst in the right Fallopian tube, close to the uterus, and probably not larger than a hickory-nut. Right ovary contained a recent corpus luteum. Uterine decidua very apparent. Little or no evidence of peritonitis.

Dr. Johnson raised the following important question: *Would not an operation, with the view of securing bloodvessels, have been feasible and justifiable immediately after the occurrence of the first hemorrhage on the 23d of March?*

Dr. T. Addis Emmet, in the light of a case reported by Dr. McBurney, and which was seen in consultation by Dr. Thomas and himself, believed it to be a feasible operation, as soon as the Fallopian pregnancy was recognized, to first dilate the uterus, then dilate the tube, and in that manner remove the fœtus. Dilatation of the uterus took place when only a moderate quantity of fluid was inclosed in its cavity, and at the same time the fluid backed into the Fallopian tubes. He therefore was perfectly satisfied that, with proper instruments, the uterus could be safely dilated, and also the Fallopian tube, and, as the cyst was usually near the body of the uterus, its contents could readily escape into the cavity of the uterus when such dilatation was effected. Dr. Emmet then exhibited an India-rubber cot, such as he had been in the habit of using during the last ten years, for the purpose of dilating the uterus. The dilator was manufactured by Shepard & Dudley, and consisted of an India-rubber cot containing a tube into which a sound could be introduced, so that it could be carried to the fundus of the uterus; an additional fixture permitted the attachment of a Davidson syringe, by means of which the cot could be distended to any degree required. When the uterus had been dilated, a curved sound could be used, and the cot introduced into the Fallopian tube, and dilatation produced as in the former instance.

Dr. Emmet was of the opinion that as soon as rupture of the cyst occurred it was a proper operation to immediately open the abdomen and secure the bleeding vessels; for, in comparison with such operations as ovariotomy, opening the abdomen for that purpose was a simple affair.

—

The Prevention of Puerperal Fever.

In the last number of the *Monthly Abstract*, page 231, we directed the attention of our readers to the valuable work which our German *confrères* are doing, in attempting to introduce an antiseptic element into the conduct not only of severe, but of normal midwifery cases. The subject is of such importance that we think no apology is needed for again adverting to it, and adducing yet further evidence of its utility. The information of which we are now making use is derived from an excellent article by Professor Zweifel, of Erlangen, in No. 1 of the *Berliner Klin. Wochenschrift*, 1878.

It appears that the idea of "Listering" in obstetrics (the Germans have coined the verb "Listern" to express the use of Professor Lister's antiseptic method, just as from Galvani's name we have coined the verb "galvanize") was first started by Bischoff, of Basle, in 1870 (*Correspondenzblatt für Schweizer-Aertze*, 1875, Nos. 22, 23). His plan consisted in giving a bath as soon as the first pains of labour were observed, washing out the vagina with a 2 per cent. solution of carbolic acid every two hours, and anointing the fingers of the medical attendant with 10 per cent. carbolic oil at each examination, the hands being previously disinfected by washing them with 3 per cent. aqueous carbolic acid. In case the hand had to be passed into the uterus, or if the fœtus was dead and decomposed, the uterus was washed out with a 2 to 3 per cent. solution of carbolic acid; and in every case frequent injections of the latter were made into the vagina and uterus for thirteen days after the birth of the child. Immediately after the labour, any wound was touched with a 10 per cent. carbolic solution, no ligature, if such were necessary, being applied until this had been done. Lastly, a pad of wadding soaked in carbolic oil (one to ten) was placed in the entrance of the vagina, and constantly renewed. Under this system the number of cases in

which morbid symptoms were present, consisting in a febrile temperature of more than two days' duration, and reaching 38.5° Cent. (101.3° Fahr.) at least on one day, tenderness of the abdomen on pressure, and fetid discharge, etc., was, in 1870, 14 per cent; 1871, 22.3 per cent.; 1872, 24.5 per cent.; 1873, 16.8 per cent.; 1874, 10.7 per cent.; 1875, 8.9 per cent.; or taking the average of the whole, 16.2 per cent. for the six years.

In 1875, H. Fehling published (*Archiv für Gynakologie*, Band xiii., s. 298) the results of experiments made for about a year in Professor Credé's clinic at Leipsic, and which consisted in applying a mixture of salicylic acid and starch (one to five) to any wounds of the external genitals and in syringing the vagina four to eight times daily, in case of fever and fetid discharge, with solutions of salicylic acid ($\frac{1}{8}$ to $\frac{1}{10}$ per cent.). The effect was excellent, but the use of the carbolic spray during labour, which was also tried for some time, was given up in consequence of the post-partum hemorrhages which it appeared to induce.

In 1877, Adrian Schücking (*Berliner Klin. Wochenschrift*, No. 26) suggested that the vagina should be washed out at the end of the labour with a 5 per cent. carbolic solution, and that immediately afterwards the uterus should be continuously irrigated by means of the apparatus of which we gave a brief description in our former article on this subject. This method was carried out in eight cases, in five of which the patients had had severe labours, and all recovered satisfactorily, no temperature being recorded over 38.4° Cent. In the other three the injection was not begun until after the commencement of febrile symptoms, but an immediate and decided defervescence was the result. Professor Zweifel's objection to Schücking's conclusion, that in the five former cases the fortunate termination was directly due to the treatment, is, first, that the number of Schücking's cases is too small; and secondly, that equally good results are possible without any antiseptic treatment. With this objection most persons will, we think, be inclined to agree.

Professor Zweifel's own method, to which we shall devote the remainder of this article, is founded partly on the use of antiseptic measures, properly speaking, and partly on the adoption of the most scrupulous cleanliness in connection with the surroundings of the puerperal woman. In the first place, all vaginal examinations *during pregnancy* are in his clinic made only after careful washing of the hands and smearing with carbolic oil, the vagina being further washed out afterwards in some cases with 5 per cent. carbolic solution. The reason for these precautions is the possibility of infectious matter being introduced into the vagina previous to labour, of its lying there and being sucked up into the uterus after the expulsion of the fœtus. "This," says Professor Zweifel, "is a possibility which no one will deny."

The rooms and beds destined for the use of the lying-in women are carefully disinfected by burning sulphur in them in fireproof vessels, allowing about four grammes of sulphur to each cubic metre of space. The bedclothes are spread out so as to expose as large a surface as possible to the fumes, which after a few hours are allowed to escape by opening the windows.

After each labour in which the hand has been introduced into the uterus, or where air has gained entrance to it, or gaseous decomposition occurred in it, the uterus is washed out with several litres of fresh water.

Since almost all the cases of puerperal fever are found to be complicated either with ruptured perineum, small rents in the vagina and vulva, or with the introduction of air into the uterus during some operation, the greatest care is bestowed on all external wounds, to which Fehling's mixture of salicylic acid and starch is applied with the best results. Careful examination of the external genitals day by day, and the use of the thermometer, are also rigorously attended to. It

should be added that at Erlangen the Obstetric Clinic has a separate pavilion to itself, which was built in 1874. The number of births from April, 1876, to October, 1877, during which period the above method has been carried out "with pedantic strictness," has been 184, with a *single* death—that of a woman with cancer, on whom the Cæsarean operation was performed. In 143 cases the lying-in period was completely normal—that is to say, the temperature never exceeded 38° Cent., or, at any rate, was never above 38.4° on more than one day. Out of the remaining forty-one, thirteen never had any morbid symptom except a rise of temperature on one or two days to 38° to 39° Cent., or on several days to 38° to 38.5°; twenty-eight had the symptoms of puerperal fever in a greater or less degree, but of these only twelve had protracted fever, inflammatory exudation, and showed clear signs of puerperal infection, and in only five cases was life ever in any apparent danger. It was further noticed that the cases which did badly were not evenly distributed through the whole period of observation, but were limited to the months of December, 1876, and January, 1877, and of September and October, 1877, in the form of small epidemics. On the whole, Professor Zweifel considers that his results are by no means inferior to those of Bischoff, and that they do not point to any necessity for introducing a more complicated antiseptic system into his practice. Moreover, Spiegelberg at Breslau has carried out a system closely resembling Zweifel's since 1874, with the splendid result of only *five* deaths in *nine hundred* labours.[1]

With such evidence before us it seems to be our bounden duty to urge on the medical profession in this country to habitually adopt the measures by which alone, as far as present knowledge goes, puerperal infection can be prevented—namely, scrupulous cleanliness and the use of antiseptic lotions, etc., for disinfecting the examining hand and the genital organs. Even the busiest practitioner can manage to invariably examine with carbolic oil instead of ordinary oil or grease, and in the most out-of-the-way places vinegar or brandy, as Professor Zweifel says, are sure to be found as substitutes for carbolic or salicylic acid.

We are not sure that in private practice the need of these precautions is not as great as in the hospital ward; for the risk of picking up infection somewhere, and conveying it to the lying-in room, is naturally very great when the same man is seeing on the same day medical, surgical, and obstetric cases. He may go straight from a scarlet fever case to a woman in labour; and a most melancholy instance occurs to us in which a very valuable life was probably sacrificed in this way not so very long ago. The old discussions about puerperal fever, which we find reproduced even now in text-books on midwifery, are out of date in the light of our modern knowledge. We *know*, for example, that the woman who gets fever, peritonitis, and vomiting just after her confinement, has been infected with poison *from without*—whether bacterial or otherwise makes not the slightest difference; we *know*, too, how to prevent the entrance of this poison into the woman's system, though we may be very helpless when it has once entered it. Knowing all this, and knowing, too, the high mortality from puerperal fever, and that probably more than a thousand women die of it in England every year, is it not our plain and simple duty to try and carry out, at any rate, the major operations of midwifery in future with the same attention to antiseptic precautions as Mr. Spencer Wells observes in performing ovariotomy?—*Med. Times and Gaz.*, March 30, 1878.

[1] For further information on this subject see also the *Zeitschrift f. Geburtshülfe und Gynækologie*, ii., 1, containing papers by Schüllen, Richter, and Langenbuch.

Puerperal Antiseptics.

Three papers by LANGENBUCH, SCHÜLIN, and RICHTER report the extensive adoption of antiseptic measures for the prevention of puerperal infection in their respective hospitals. Richter's observations were made in the Charité Hospital at Berlin, where, especially after complicated labours, injections into the uterus were made for prophylactic purposes, and were continued throughout the puerperium. In all, about three thousand injections were made. The carbolic solution most frequently employed was a 2 per cent. solution. At first, a 3 per cent. solution was used; but, if repeated frequently, it was reduced to 2 per cent., as the former often caused carbolic acid to appear in the urine. Considering the numerous complications, the results were very favourable, being a mortality of 1.6 per cent. of all the women delivered, and of 4.83 per cent. among the cases in which the injections were used. Schülein, in the University Obstetric Clinic of Berlin, in the winter *semester* of 1876–77, treated two hundred and six out of two hundred and eighty-seven lying-in women immediately after delivery by prophylactic injections of the uterus with a 3 per cent. solution of carbolic acid. This injection was employed whenever in the lying-in bed frequent rises of the pulse and temperature occurred. A glass tube was at first used, and a double-current catheter afterwards. Under this treatment, with eighty-one cases of illness among the two hundred and six, or 28 per cent., the deaths amounted to only seven, or 2.4 per cent.; only one occurring from septic causes, one in a woman on whom Cæsarean section had been performed. Langenbuch has since 1872 employed drainage of the puerperal uterus in order to afford a free outflow of the secretions. His experience shows that this treatment is quite innocuous. In one case, the drain remained nineteen days *in utero*. He recommends this treatment where septic infection already exists, in order to prevent a new invasion of septic material; and also as a prophylactic measure when the cases seem to offer a doubtful prognosis.—*British Med. Journ.*, March 30, 1878.

On Membranous Dysmenorrhœa.

At a late meeting of the Obstetrical Society of London (*Med. Examiner*, May 9, 1878) the following case was recorded by Dr. CORY as strongly supporting Dr. Hausmann's view that cases of this kind are due to an imperfect impregnation. The patient was married at the age of 30, in 1865, having previously been always regular, and never having passed any membrane. Within the first two years of marriage she had three abortions, all between the second and third months. Since then she had at her menstrual periods almost invariably passed membranes, which, on examination, proved to be very perfect casts of the uterine cavity, and presented all the naked eye and microscopical appearances of its mucous lining. (A section of membrane was shown under the microscope.) The membrane usually came away on the second day of menstruation, previously to which the dysmenorrhœa was acute. On two occasions she remembered the membrane did not appear; and both times she had been previously away from her husband. She attended as out-patient at St. Thomas's Hospital from September, 1875, to February, 1877; and a record of her periods during this time showed that the intervals varied from twenty-five to thirty-one days. On May 3d, 1877, she was admitted, while still menstruating, into the hospital. On May 19th the flow again appeared, but without any membrane. A note taken on May 10th stated that the uterus was much retroflexed, but of normal length; there was a small mucous polypus at the orifice of the cervix. She left the hospital on May 31st, and was not seen again till February last, when she stated that she had been living apart from her husband for nine months, during which time she had menstruated regularly without any membrane appearing. He thought the case

afforded additional evidence that menstruation was due to an abortion of an unimpregnated ovum, together with its nidus, the mucous membrane of the uterus. The order of events before and during menstruation would seem to be—(1) The arrival of an unimpregnated ovum in the uterus at, or soon after, a menstrual period; (2) The development of this ovum and its nidus, the mucous membrane of the uterus, up to a certain point; (3) The arrival to maturity of the next Graafian follicle, accompanied towards its completion by ovarian irritation, which being reflected to the uterus causes uterine contraction; (4) The abortion of the old ovum and its nidus, accompanied by a discharge of blood; (5) The rupture of the Graafian follicle and the passage of the new ovum along the Fallopian tube.

Dr. Galabin said that the case before them afforded some direct evidence as to the period at which the Graafian follicle ruptured. It was clear from the facts adduced by Dr. Cory that in many successive months the follicle ruptured and impregnation took place soon after the end of a menstrual period, since there would have been no time for the development of the decidua, if the ovum had belonged to the menstrual epoch at which the membrane was expelled. It was true that recent researches seemed to favour the view that rupture took place before a period, but there was anatomical evidence on both sides, and the question must as yet be regarded as undecided. Dr. John Williams thought that there could be no doubt that the membrane exhibited by Dr. Cory was the decidua containing an impregnated ovum. The fact that the membrane was only passed when the woman was living with her husband favoured the view that it must be a kind of abortion, and for this reason he objected to the case being quoted as one of membranous dysmenorrhœa. Numerous conditions were classed under this name, but many substances might be passed which were not decidual membrane, and he had known of one case where a tough layer of mucus was described as a membrane. He thought the name of membranous dysmenorrhœa ought not to be given to any case in which the lining membrane of the uterus was not expelled. At the same time he felt that Dr. Cory's case, though not one of membranous dysmenorrhœa, would serve to throw some light upon the pathology of that disease. As to the sequence of events in connection with menstruation, he thought that the evidence which had been accumulated on this point showed that usually, if not always, impregnation took place shortly before a period. The anatomical evidence in favour of this was very strong, and Reichert had published eighteen cases in which the ovum was discharged before the commencement of menstruation. At the same time he must admit that there was evidence to show that the ovum might be discharged both during and after a period. In connection with this point he would refer to Coste's case, though he thought that the conclusions drawn from it were erroneous. The subject of this case, a young girl, was drowned fifteen or sixteen days after the cessation of the menstrual flow, and a Graafian follicle was found considerably enlarged. Coste regarded this as a follicle which had failed to rupture during the last period, but it appeared to him that it was in reality the follicle which was preparing to rupture previous to the next period. But the strongest evidence in favour of his view was derived from the history of the Jews. According to the Mosaic law intercourse was forbidden during each period, which was reckoned as lasting five days and for an additional space of eight days following the period, during which the woman was regarded as unclean. There were thus in all thirteen days of uncleanness, so that if the conditions of the Mosaic law were rigidly observed, impregnation could not take place till the ninth or tenth day after the cessation of a period. He had made many inquiries of Jewesses on this point, and he found that those who were strict in their observances adhered to the thirteen days of

uncleanness, while others abstained from intercourse for a week in all. He thought these facts were strongly in favour of the view that impregnation took place before a period. He admitted, however, that in some women the ovum might be discharged subsequently to menstruation. In conclusion, he would ask Dr. Cory what evidence he had to show that an unimpregnated ovum was capable of development, and what was the nature of that development? Dr. Aveling said that he had some hesitation in accepting the view put forward in the paper. He thought that a hyperæmic condition leading to membranous dysmenorrhœa might have been caused by the irritation of intercourse. As to the period at which the Graafian follicle ruptured, he had been led to believe that ovulation was a very irregular function, and he thought no hard and fast line could be drawn. Dr. Potter dissented from the assertion that Jewesses were accurate in their calculations as to pregnancy. In some cases he had found them as much as a month out of their reckoning. After remarks from Dr. Brunton, Dr. Cory observed, in reply, that until we had more exact knowledge as to the time taken by the ovum in its passage along the Fallopian tube, it was impossible to come to any definite decision on the period of rupture of the Graafian follicle. With regard to the facts which had been adduced about Jewesses, he might remark that spermatozoa were known to live some time, and impregnation might thus take place after a menstrual period, though connection had occurred before it. He had no means of proving that unimpregnated ova could develop in the uterus.

—

Transfusion performed on Account of Uterine Hemorrhage in a Girl of Thirteen.

In a paper (*Archives de Tocologies*, Dec. 1877) read before the Medical Society of Rheims, M. LEROY relates a successful case of transfusion, performed upon a patient under the care of Dr. Strapart. The patient was thirteen years old, and menstruation had first appeared in July, 1876, lasting two or three days. It did not recur till September, when it lasted eight days. The period recurred again in October, and, when it had already continued two days, severe abdominal pain came on, with more profuse loss. From this day clots began to be passed, and at length, after twenty-one days of profuse hemorrhage, the child was brought by her parents to the hospital, on November 23. She was then excessively pale, the pulse very rapid, thready, and irregular, respiration slow, skin covered with sweat. An anæmic bruit was heard over the heart. She was treated by ice upon the abdomen, and ergot internally, with cold enemata; but the hemorrhage rather increased in quantity. Quinine and perchloride of iron were then given, and a temporary improvement followed, the amount of loss diminishing, but not entirely ceasing, up to December 13. On the 14th of December, apparently with the commencement of a menstrual period, profuse loss recommenced, clots being frequently expelled. Uncontrollable vomiting then came on, and all nourishment was rejected. On the 17th her complexion was cadaveric, the skin was cold, the voice inaudible, and the pulse could no longer be felt. A consultation was held with Drs. Henri and Adolphe Henrot, and Langlet, and it was decided to transfuse immediately. The operation was performed by Dr. Henri Henrot, the father furnishing the blood. The apparatus of M. Mathieu was used, the blood not being defibrinated. The quantity employed was 170 grammes. The only difficulty met with was that of finding a vein large enough to admit the canula, all the vessels being collapsed; but this was easily overcome. The patient rapidly revived during the operation, and, immediately after it, a considerable number of clots was expelled from the vaginia. The blood, examined by the microscope after the operation, showed an

enormous difference as regards the number of corpuscles from that which had been examined before. A short time after its conclusion, the feeling of warmth at first felt gave place to shivering, and extreme thirst succeeded. Two hours later the pupils, which had been widely dilated, became closely contracted, and this condition continued for four or five hours. The following morning the pulse was 145; the hemorrhage was insignificant and the sickness less frequent. Some febrile disturbance followed, the temperature rising to 38.7° C., but the patient became convalescent, and no more serious hemorrhage occurred. She left the hospital on January 28 in fair condition, although still very pale.—*Obstetrical Journal of Great Britain*, April, 1878.

—

Blood-Tumours of the Pelvis.

In the *Deutsche Medicinische Wochenschrift* for February 1878, Dr. Otto Alberts relates the following four cases which occurred in the gynæcological clinic of Professor Spiegelberg.

Case I. Rosina K., aged 26, wife of a mason, had one child in 1874. She had always been healthy. She was admitted into Professor Spiegelberg's ward January 16, 1877. Since her last period, she had suffered from pain of an acute character in the back. On examination, there was nothing abnormal on abdominal palpation. *Per vaginam*, a tumour of the size of a child's head was felt behind the uterus. There was slight hemorrhage. The presence of a retro-uterine hæmatocele was diagnosed. The patient became weaker day by day, and, on February 6, the tumour was punctured through the posterior wall of the vagina with a Dieulafoy's aspirator. The characteristic bloody fluid escaped, and the patient gradually recovered.

Case II. Johanna Th., aged 28, servant, had always been healthy. At the last catemenia she strained herself in the stomach, whereupon the flow immediately ceased, and most severe pain set in over the left iliac region. On examination by the abdomen, there was felt a tumour rather larger than a hen's egg in the left pelvic region. Bimanual examination revealed a slightly enlarged and anteflected uterus. The tumour could be felt in the left fornix, and seemed to have firm cyst walls. Dr. Spiegelberg confirmed the diagnosis of Dr. Alberts that there was a blood-tumour of the left Fallopian tube. On June 7, Dr. Spiegelberg punctured the tumour with a trocar and let out some foul sanious fluid. The cyst slowly contracted; and although there was some fever for several days, the patient recovered.

Case III. Bertha J., single, aged 18, always healthy, never menstruated, for some weeks had suffered from dysuria and dyschezia, together with pain in the lower abdomen. On examination it was found that she had an imperforate hymen. The result had been an accumulation of menstrual fluid in the uterus and vagina, forming a hæmelytrometra. By the abdomen, the enlarged uterus could be felt as high as the navel. On February 13, Dr. Spiegelberg incised the hymen under water, the patient being placed in a bath. A considerable quantity of ichorous fluid escaped. With the exception of a left suppurative parotitis, the patient slowly recovered without further complications.

Case IV. Rosina R., peasant, aged 40, married, with no children, had always been healthy. In 1871 she had smallpox, from which she recovered. From this time the menses became more and more scanty and more painful. Finally they almost entirely ceased, and in April, 1877, she entered the hospital. Abdominal examination revealed a small movable tumour in the median line behind the symphysis pubis. *Per vaginam*, the passage of the finger was arrested half way by a *cul-de-sac*. By the speculum it was seen that cicatricial atresia had taken place,

leaving only a small pin-hole aperture through which a catgut could be passed. The upper portion of the vagina and the uterus had become distended with retained menstrual blood. The diagnosis was atresia vaginæ acquisita, with hæmelytrometra. The vagina was dissected up by Dr. Spiegelberg under carbolic spray. The imprisoned fluid having been released, the patient recovered. Dr. Spiegelberg was of opinion that the atresia vaginæ resulted from the attack of smallpox. —*London Med. Record*, April 15, 1878.

Retroflexion of the Uterus in Unmarried and Nulliparous Women.

In an article on the causation and treatment of retroflexion of the uterus in virgins and nulliparous wives (*Archiv für Gynäkologie*, B. xi. H. 1), Dr. GRENSER declares his experience that retroflexion is of much commoner occurrence in virgins than most authors have considered it to be. Among the commonest causes he has found to be the presence of a fibroid tumour in the posterior wall, or of adhesions, the result of a former perimetritis, by which the fundus is tethered in a backward direction. Among important predisposing causes are also to be reckoned anæmia, want of muscular tone, catarrh of the genital organs, and masturbation; and as an immediate cause the effect of falls or over-exertion, and especially that of straining, which occurs in chronic constipation. Lastly, a truly congenital retroflexion is an occasional though a very rare occurrence. The late Professor Martin has mentioned such cases, depending on imperfect development of the posterior uterine wall, the whole uterus being small and limp. The author has himself examined at Berlin a specimen taken from a new-born child, which was first described by Dr. C. Ruge in the *Berliner Klinische Wochenschrift*, 1875, No. 1. In this instance no distension of the intestines was found to account for the displacement, nor were there any adhesions or signs of perimetritis. The posterior vaginal cul-de-sac was well developed. The uterine wall on the convex side of the curve was atrophied, while that on the concave side appeared to be thickened.

The author treats simple retroversions by a ring pessary, but in retroflexion of the nulliparous uterus he considers that the vagina is generally not capacious enough to admit a lever pessary of sufficient size to press the fundus upward in adequate degree. He therefore makes use of an intra-uterine stem, fitted to a vaginal support. He finds that, in many instances, a virtual stenosis of the cervix is brought about from congestion and swelling, even though the os uteri is not primarily very small. In such cases he divides the cervix bilaterally, and afterwards introduces temporarily an intra-uterine stem, to prevent any cicatricial contraction. He records one such instance in which, after three years' sterile marriage, the stem was worn for three and a half months, and the patient became pregnant after the menstrual period which followed its removal.—*Obstetrical Journal of Great Britain*, May, 1878.

Medical Jurisprudence and Toxicology.

Recovery from Poisoning by Cyanide of Potassium.

Dr. MUELLER-WARNEK, of Kiel (*Berl. Klin. Wochenschrift*, No. 5, 1878), reports a case of severe poisoning by cyanide of potassium, which ended in recovery, and which is interesting in several respects. The patient, aged twenty-

four, a photographer, crossed in love, drank a small tumblerful of a solution of one part cyanide in fifty water, a quantity equivalent to thirty or thirty-six grains of the salt, after which he quickly fell to the ground unconscious. He was admitted into the hospital within an hour of his attempt at suicide, in the asphyxial stage of hydrocyanic poisoning, after having spontaneously vomited once. He was first treated with a subcutaneous injection of two grammes of sulphuric ether, and his stomach was repeatedly washed out with the stomach-pump until the water which returned was completely free from any smell of hydrocyanic acid. Several litres of water were necessary to accomplish this. In spite, however, of these measures, as well as of the subcutaneous injection of 2.0 grammes of ether, in which 0.2 gramme of camphor was dissolved, the symptoms of œdema of the lung and general collapse steadily increased, and it was necessary to have recourse to artificial respiration. Dr. Warnek now had the patient, as a last resource, immersed in a warm bath, and poured iced water on his head and neck from a can at a height of several feet. The effect produced was remarkable; the breathing rapidly improved, the pulse became regular and gained in strength, and at the end of an hour the patient, after a second injection with camphorated ether, was wrapped in blankets and put to bed. An hour afterwards all symptoms of œdema of the lungs had disappeared, and at seven o'clock in the evening the patient had entirely recovered his consciousness, and remembered what he had done. Three days afterwards he complained of occipital and gastric pains, and of a feeling of general weakness, and his speech was noticed to be difficult and stuttering. On the fifth day he was able to leave his bed, but, curiously enough, he was unable to stand or walk without assistance. In standing his legs trembled violently, so that he staggered from side to side, and would have fallen if not supported. In walking, if held by both arms, he could just advance by very short and trembling steps, slowly putting out one leg in front of the other, the whole character of his movements strongly reminding the observer of some of the severe forms of lateral and insular sclerosis of the spinal cord. This abnormal condition of the lower extremities disappeared more rapidly than the disturbances of speech, which persisted for more than two months. Dr. Warnek points out that the muscles would be directly affected by the poisonous action of the cyanide on their motor centres as well as on their proper substance, and indirectly by an alteration in the blood supplying those centres and the substance of the muscles, owing to its chemical combination with hydrocyanic acid. The more permanent disturbances of speech are more difficult to account for satisfactorily; but the introduction of other poisons into the human body is occasionally followed by perversion of one or other motor functions. The ordinary fatal dose of cyanide of potassium is said to be from two to four and a half grains (Husemann, Guy), but it is probable that at least thirty grains were swallowed in the case before us, or rather that the quantity of liquid swallowed would have contained an equivalent to thirty grains if the solution, which had been made some time, had retained its original strength (one in fifty). Probably, however, this strength had been reduced by a decomposition of a portion of the cyanide into innocuous compounds, such as formiate of potash and ammonia; and the fact that the poison was taken on a full stomach, so that its absorption was retarded, and that a good deal of it was expelled by vomiting soon after ingestion, may explain why the patient's life was prolonged until medical aid could be procured. In any case, Dr. Warnek believes he must have died if left to himself.—*Med. Times and Gaz.*, April 6, 1878.

CONTENTS.

Anatomy and Physiology.

Congenital Absence of One Kidney. By Dr. Beumer 241
The Rouge of the Retina. By M. Capranica 243
Laryngostroboscopy. By Dr. Oertel . . . 244
Albuminuria in Health. By Prof. Leube . 244
Conditions of Growth of Various Organs. By Dr. Beneke 245

Materia Medica and Therapeutics.

Biological Action of Salicylic Acid and Salicylate of Soda. By Drs. Chirone and Petrucci 246
Detection of Mercury in the Urine. By Guntz 246
Subcutaneous Injections of Chloroform. By M. Constantine Paul 247

Medicine.

Transfusion in Anæmia. By Prof. Bitot . 247
Use of Carbolic Acid in Typhoid Fever. By Dr. C. Tempesti 248
Delirium Preceding the Eruption of Small-pox. By Dr. Zippe 248
Treatment of Apoplexy with Heart-disease. By Dr. Groedel 249
Chorea in Old People. By M. Charcot . 249
Anatomical Causes of Infantile Paralysis. By Dr. Eisenlohr 250
Oxalate of Cerium in Chronic Cough. By Mr. Thomas Clark 250
Paracentesis Thoracis. By M. Morand . 251
Contagiousness of Phthisis. By Dr. Tappenier 252
The Influence of Pregnancy in Phthisis. By Dr. A. Lebert 253
The Presence of Elastic Fibres in Phthisical Expectoration. By Sokolowski and Greiff 253
Infarction of the Heart. By M. Leveran . 255
Treatment of Infantile Diarrhœa. By Dr. Réné Blache 256
Treatment of Nervous Vomiting by Electricity. By Dr. Semmola 257
Sulphate of Quinia in Diarrhœa. By M. Guyot 257
Biliary Calculi and their Pathological Relations. By Dr. Beneke 257
Changes in the Small Vessels in Bright's Disease and the Dependent Theories. By Dr. Ewald 258
A Case of Abdominal Abscess with Discharge of Intestinal Worms. By Dr. Lorentzen 260
Case of Contusion of the Abdomen followed by Localized Peritonitis and Encysted Dropsy. By M. Duplay 261
Tubercle in Muscle. By Dr. F. Marchand 263
On Changes in the Sympathetic Nerve in a Case of Diffuse Eczema. By Dr. G. Marcacci 263
Skin Diseases Treated by Chrysophanic Acid. By Prof. Neumann 264
Relation of Ichthyosis to Membranous Dysmenorrhœa. By Dr. Gautier . . . 264

Surgery.

Diffusion of Cancer along the Nerves. By Dr. Colomiatti 265
On Transmission of Syphilis by a Bite. By Dr. Zeissl 266
Treatment of Ulcers. By Dr. Mandelbaum 266
Case of Gunshot Wound of the Brain. By Dr. Rossi 267
The Influence of the Uterus in Eye Disease. By Dr. H. R. Swanzy 267
Extraction of Steel and Iron from the Eye by the Magnet. By Dr. W. A. McKeown 271
Syphilitic Interstitial Glossitis. By Dr. C. Mauriac 272
Syphilitic Disease of the Nose. By Schuster and Sänger 273
On Circumcision by the Galvanic Cautery. By Dr. Bona 273
On the Treatment of Congenital Hydrocele by Injections of Alcohol. By Dr. Francis Labat 274
On the Treatment of Severe Arterial Hemorrhage from Punctured Wounds of the Throat and Neck, especially considered with regard to Ligature of the External Carotid Artery. By Mr. Wm. Harrison Cripps 274
On a Case of Ununited Fracture. By Dr. Max Schüller 275
Two uncommon Forms of Dislocation. By Mr. A. W. Mayo Robson 276
A Case of Traumatic Resection of the Scapula. By Dr. Knauth . . . 277
Iodine Injection of the Knee-joint. By Dr. Orlow 278

Midwifery and Gynæcology.

Report of a Case of Fallopian Pregnancy. By Dr. Laurence Johnson 278
The Prevention of Puerperal Fever. By Prof. Zweifel 279
Puerperal Antiseptics. By Langenbuch, Schüllen, and Richter 283
On Membranous Dysmenorrhœa. By Dr. Cory 283
Transfusion performed on Account of Uterine Hemorrhage in a Girl of Thirteen. By M. Leroy 284
Blood-Tumours of the Pelvis. By Dr. Otto Alberts 285
Retroflexion of the Uterus in Unmarried and Nulliparous Women. By Dr. Grenser 286

Medical Jurisprudence and Toxicology.

Recovery from Poisoning by Cyanide of Potassium. By Dr. Mueller-Warnek . 286

Published Monthly, price $2.50 *per annum, free of postage.*

Also, furnished together with the AMERICAN JOURNAL OF THE MEDICAL SCIENCES *and the* MEDICAL NEWS AND LIBRARY *for* SIX DOLLARS *per annum in advance, the whole free of postage.*

HENRY C. LEA, Philadelphia.

THE MONTHLY ABSTRACT

OF

MEDICAL SCIENCE.

VOL. V. No. 7. For List of Contents see last page. JULY, 1878.

Anatomy and Physiology.

On the Origin of Glycogen and Destination of Sugar.

In a paper on Glycogen and Sugar published in the *Glasgow Medical Journal* for April, Dr. McKENDRICK says:—

Connected with the glycogenic function of the liver, many important questions arise; among which are: 1. What is the origin of glycogen; 2. What is the ultimate destination and use of the sugar formed from glycogen.

1. *The Origin of Glycogen.*—The amount of glycogen formed is largely influenced by the nature of the food. Carbo-hydrates, such as starch, are converted by the digestive fluids into glucose, which passes into the portal system. It may be conceived that in the hepatic cells, dehydration takes place thus: $C_6H_{12}O_6 - H_2O = C_6H_{10}O_5$. This view is supported by the fact that the injection of sugar into the portal vein increases the amount of glycogen; but, on the other hand, it is well-known that the substance may be formed even after the rigid exclusion of all carbohydrates from the food. Glycogen may, therefore, be formed from other substances. Physiologists incline to the opinion that it may be produced either from fat or albuminous matters; but the observations on which this view is based are not either clear or precise.

2. *The Ultimate Destination of Glycogen.*—Glycogen has been found in the placenta, testes, brain, white blood-corpuscles, muscles, and in great abundance in the tissues of the embryo at an early stage. On the other hand, sugar has been found in the blood. Probably owing to the difficulties in the way of a quantitative estimation of the sugar in the blood, considerable difference of opinion has prevailed among physiologists regarding this point. On the one hand, Pavy has stated that the blood of the hepatic vein contains no more sugar than that of the portal vein; nor will he admit the assertion of Bernard, that there is less sugar in venous than in arterial blood. Whilst, then, Bernard's facts are disputed by so able and accurate an observer as Pavy, the matter must still be regarded as *sub judice*, and demanding fresh investigation.

Experimental physiology has enabled us to approach the subject from a different direction. If a solution of grape-sugar be repeatedly injected—in small quantities at a time—into the blood of an animal, no sugar makes its appearance in the urine—that is to say, sugar disappears in the body. Such a destruction of sugar probably takes place in the blood, lungs, and muscles. It is well known that blood containing sugar becomes acid, and that sugar gradually disappears as the acidity becomes more marked. From the fact that the quantity of sugar in the blood of the left heart is not much, if at all, less than that in the right heart, it is not likely that much sugar disappears in the lungs. As regards muscle, it has been shown that the blood returning from a muscle contains less sugar than the blood going to it. When muscles work, they become acid from the formation of sarcolactic acid. The question, then, arises as to the origin of this acid. Is it

obtained from any of the albuminous constituents of the muscle, or from sugar? No chemical method is known by which lactic acid can be made from albuminoids; but it may be readily procured by the action of a ferment on grape-sugar. It has also been ascertained that muscles rendered acid by over-work speedily change grape-sugar into lactic acid when plunged into a solution of sugar. The inference, therefore, is that there exists in living tissue some kind of ferment which converts sugar into lactic acid.

There is, however, a stage still further back which is of some importance. Claude Bernard's theory is, that the conversion of glycogen into sugar occurs chiefly in the liver, and that the sugar is washed away by the blood of the portal vein almost as quickly as it is formed. But, as already stated, the quantity of sugar in the blood of the vein is small. On the other hand, we find glycogen in the tissues, and more especially in muscle. It is possible, therefore, that glycogen may be converted into sugar in other places and tissues than in the liver.

I have frequently succeeded in obtaining glycerine extracts of liver which convert starch into sugar. In like manner, I have prepared glycerine extracts of the tissue of lung, brain, spleen, and muscle, which sometimes had the same effect. Glycerine extract of muscle rarely fails. With the view of working out this subject more fully, I am preparing at present similar extracts of many other tissues, and the result will be recorded in another paper. Meantime, there is sufficient evidence to show that a ferment, having the power of changing starch into sugar, exists in other organs besides in the liver.—*London Med. Record*, May 15, 1878.

Materia Medica and Therapeutics.

The Properties and Nutritive Value of Peptone.

When an albuminous substance is digested with hydrochloric acid and pepsine at the temperature of the body, it becomes converted into "peptone;" that is to say, it has acquired properties which it had not before, and has ceased to be precipitable by heat or dilute mineral acids, though its chemical composition is apparently the same as that of true albumen. The nature of this puzzling change has been lately examined by Dr. ADAMKIEWICZ, Privatdocent at Berlin ("Die Natur und der Nahrwerth des Peptons," Berlin, 1877; and *Berliner Klin. Wochenschrift*, No. 2, 1878, "Vorträg ueber Pepton"), and he finds that it is partly explained by the fact that the ashes of peptone always contain less salts (phosphates) than those of albumen, for Alex. Schmidt, of Dorpat, has shown that by removing the salts from albumen by dialysis the latter ceases to be coagulable on boiling, but recovers the property of coagulating on the restoration of the salts. That this is only a partial explanation is clear, because peptone cannot be rendered coagulable by adding salts to it; and hence some deeper molecular change has probably occurred in it since it existed in the form of albumen. This is not mere theory, as is proved by the fact brought to light by Adamkiewicz, that if peptone be freshly precipitated (as it can be by certain metallic salts) and warmed, it melts as if it were fat, and solidifies again on cooling. On the other hand, we know that heat coagulates albumen; hence, as liquefaction involves a loosening of the cohesion of the molecules of a body to one another, and solidification their firmer aggregation, and as the molecules of a body are the more closely united when they are combined in definite groups, it is clear that the molecular constitution of albumen is more definite than that of peptone.

Is peptone decomposed within the body in the same way as albumen? This question Dr. Adamkiewicz has tried to answer experimentally. He first fed dogs with a diet insufficient for their actual needs until the daily excretion of nitrogen became very nearly constant. He then added peptone to the above for two days, kept them on the former diet for two days, and on two other days fed them on white of egg. The result was, chemically, practically identical in the two cases—about two-thirds of the nitrogen of the peptone and egg-albumen being retained in the body; but there was this one difference between the results of feeding with peptone and albumen: that in the former case the nitrogen corresponding to the decomposed peptone appeared in the urine during the next twenty-four hours, whereas the albumen-nitrogen took two days for its elimination. From these observations Adamkiewicz concludes that peptone is better suited than albumen (as, indeed, we should *à priori* have expected) for entrance into the animal juices, and elaboration by the tissue-cells. Other experiments proved that peptone increases the body-weight as decidedly as dry serum-albumen and egg-albumen; and further, that it does not, like gelatine, merely spare the waste of the tissues without itself undergoing organization. Hence, as peptone is as nutritious as albumen, and at the same time more readily assimilable, it follows that, as Adamkiewicz expresses it, "there must be indications for its therapeutic use." Dr. Witte, of Rostock, has succeeded in preparing it on a large scale, and a few observations have been made with it on patients in the Berlin Charité Hospital and elsewhere, and with success as far as they go. Thus, a female lunatic, who had previously vomited everything she took, was treated with enemata, each containing peptone equivalent to fifty grammes of meat. This quantity was absorbed by the bowel in a few minutes, and as long as the enemata were continued the patient ceased to go to stool; a striking proof of the complete assimilation of the peptone. Another woman similarly ceased to vomit when all albuminous food was withdrawn from her diet and replaced by peptone.

One word of caution is necessary as to the use of this substance in medicine. As we saw above, it contains a smaller proportion of salts than albumen, and it is also deficient in creatinin and the extractives which occur in meat, which is the most natural source from which the human subject is supplied with albumen; hence we must add all these to the peptone, and the best way to do this is to dissolve the latter in ordinary warm meat broth. The quantity of peptone ingested daily must correspond to about fifty to sixty grammes of pure albumen, or 200 to 250 grammes of meat. We hope soon to be able to report the result of further clinical experiments with peptone.—*Med. Times and Gazette*, March 23, 1878.

Medicine.

The Pathology of Inflammation.

Great questions have often been fought out upon narrow ground. Pathology, as well as history, affords illustrations of the fact. The cornea of the frog is a small object, but upon it many of the problems relating to the most important of all pathological processes—inflammation—have been worked out, especially those which relate to the participation of the fixed elements of a tissue in the changes which occur. It must be confessed, however, that the results hitherto obtained have been by no means conclusive. A further contribution to the subject, by

Dr. SENFTLEBEN, has just appeared in Virchow's *Archiv*, important, not only for the care which the investigation displays, but also for the clearness with which it corroborates the views of Cohnheim. The coarser area of the field of observation is, it is true, a little enlarged, for the cornea of the rabbit is chosen instead of that of the frog, as affording special advantages—especially in that the greater size offers a better means of differentiation of morbid from healthy parts and of separating the conditions of the process, as well as greater facilities in the process of subsequent examination.

Authorities of weight have adduced observations on each side of the controversy regarding the participation of the fixed corpuscles of the cornea in the formation of pus. On the one hand, Cohnheim's well-known denial of their implication has been corroborated by Eberth and others, while Böttcher and Walb have affirmed the fact of their participation in the process. This latest contribution of Senftleben, as we have said, corroborates very strongly the conclusions of the former observers, and also demonstrates the source of some of the opinions which do not harmonize with those attained.

In all observations on this subject the exact method employed is of great importance. Senftleben employed, following the example of Böttcher, chloride of zinc, instead of nitrate of silver, as a cauterizing agent, and hardened the cornea in chloride of gold. The most important element in the researches is the discrimination of the processes of inflammation and reparation of the damaged tissue. Both these go in curious spike-like processes, but it is asserted that the distinctions between them are most conclusive. The nuclei in the regenerating process are a long oval in form, much less deeply-tinted than those of the wandering round cells, and constantly show three or four nucleoli. On the other hand, the nuclei of the wandering round cells are smaller, and tint much more deeply. Most of these cells contain two, three, or four nuclei, lying close together, and often distending the cell. The arrangement of the cells in the two processes is equally distinctive. In the process of regeneration the nuclei are far apart, while they are much closer in the inflammatory process, and the closer the more intense it is, so that they may come to be actually in contact. The course and arrangement of the spikes of cells are also in the two cases different. Finally, another characteristic of the regenerative process is that at the extremity of the spikes the protoplasm often exhibits fibrillation, while no such appearance is ever seen in the inflammatory process. The regenerating changes go on concentrically and uniformly in the entire periphery of the cauterized area, and by this the corneal corpuscles which have been destroyed are restored, so that the cauterized area after a certain time presents a completely normal appearance.

Senftleben concludes that the whole of this reparatory process may go on without there being visible at any time, either in the cauterized region or in the periphery of the cornea, any wandering corpuscles, and also without the appearance of any large masses of protoplasm having the slightest resemblance to giant cells. The fixed corneal corpuscles proliferate, but only produce other fixed corneal corpuscles, never round, pus-like cells. Whatever caustic was employed, provided its action was sufficiently deep to pass beneath the epithelial layer, so as to preclude the passage of cells into the cornea from the conjunctival space, the result was always the same. No pus-cells arose from the fixed corpuscles. When measures were taken to secure the death of these corneal corpuscles, round cells might still appear, but they evidently came from the periphery, since they were found in decreasing number on passing from the periphery to the centre, and were never so collected in the centre as to suggest the idea of local origin. If the cornea was tinted before the fixed corpuscles were obscured by the numbers of round cells which wander in, the former might be seen to be quite unchanged.

The path by which the wandering cells enter is threefold: first, by the nutritive channels of the cornea; secondly, between the fibrillæ of the corneal substance; and, thirdly, along the nerves. The more considerable the inflammation the greater the number of these cells, and in intense inflammation they may be so abundant that they surround and compress the fixed corpuscles, and this has given rise to the idea that the latter participate in the changes. These corpuscles are in the way of the wandering cells, for they lie in the interfibrillar spaces by which many of the cells pass. Precisely the same appearance, the corpuscles being surrounded by the round cells, is seen in corneæ in which the cells are, and in those in which they are not, killed by the action of the caustic.

By these and other means of observation, Senftleben concludes that the activity of the fixed corpuscles and that of the wandering cells may be completely separated. The two participate in processes which are essentially different, and which lead to completely different results. The effect of the activity of the fixed corneal corpuscles is exclusively to give rise to similar elements which have been destroyed by cauterization, and so to restore the injured portion of the cornea. The presence of a large number of wandering, leucocyte-like, round cells is, on the contrary, the characteristic of corneal inflammation. In their origin the fixed corpuscles take no part. If the inflammation is very intense—*i. e.*, if a great introduction of round cells occurs—portions of the cornea may be entirely destroyed by them; but if it is moderate, the cells which have entered may disappear, and the remaining corneal tissue may be repaired by the fixed corpuscles. Thus the latter play a reparatory, the round cells a destructive, part.

It may, however, be asked, On what ground is this sharp demarcation between reparation and inflammation founded? Would not some be inclined to regard as inflammatory the process which Senftleben calls reparatory? The distinction, it will be observed, turns on the presence of the round cells in the region. In a non-vascular tissue these have been almost universally taken as the characteristic of inflammation. During the whole process, which is regarded as reparatory, the round cells, as a rule, are not seen. Moreover, the two processes are accompanied by characteristic macroscopic appearances. The inflammatory process, with its abundant cell-infiltration, is indicated by opacity of the cornea; the process of reparation, with participation of the fixed corneal corpuscles, by increased and increasing transparency. Hence it is assumed that the two processes, which are designated inflammation and regeneration, are completely independent of one another, and have nothing in common.

If the fixed corpuscles of the cornea do not furnish the round cells, what is the source of their elements? Two only are conceivable—the episcleral vessels and the conjunctival sac. The passage of cells from the conjunctival sac into the cornea has been rejected as untenable by almost all observers, but some observations of Senftleben go far to demonstrate that such a passage does occur under certain circumstances, and that both of these sources may, in different cases, furnish the wandering cells. If two spots are cauterized, one in the centre of the cornea, and one at its periphery, adjacent to the vessels, the latter will be crammed with round cells when the former is free from them. It seems reasonable to conclude that the source of those in the peripheral spot is the adjacent vessels. But if a fine thread is passed into the region which has been cauterized in the centre of the cornea, a dense swarm of round cells passes in along the thread, and they accumulate in the affected area. In this there are no living fixed corneal corpuscles, and in it, without this intentional opening of the corneal tissue, not a single round cell would be visible in the affected area. The conclusion that the cells entered from the conjunctival sac seems inevitable.

Thus the central cauterization of the cornea, without opening of the corneal

tissue, never leads to the changes recognized as inflammatory, never to the appearance of round cells, but only to the regeneration of the fixed corneal corpuscles destroyed by the caustic. If, on the other hand, the tissue is opened up, there is a passage inwards of the corpuscles from the corneal sac, and the appearance universally recognized as that of inflammation in a non-vascular tissue. Without this opening of the tissue there is no true keratitis.

Lieberkuehn has asserted that carmine injected into the living cornea tints only the fixed corpuscles, and by this method Walb was led to the conclusion that the origin of round cells from the fixed corpuscles could be traced. But Senftleben asserts that the result of his injections is precisely the reverse: that after the tenth day of the injection it is not the fixed corpuscles which appear carmine-coloured, but that all the granular particles of carmine which are in cells are in the wandering round cells; and he gives conclusive reasons for believing that all those which are thus coloured have passed in by the opening made for the injection. In a few weeks colossal, many-nucleated masses of granules are developed, and Senftleben concludes that these also come only from the wandering cells.

Thus this important investigation furnishes new proof that the accuracy of Cohnheim's observations and the correctness of his conclusions are alike unassailable, and that the objections which Böttcher and others have made are untenable. It cannot be doubted that the clearer results which Senftleben has obtained are due in part to the better facilities for observation furnished by the rabbit over the frog.—*Lancet*, May 18, 1878.

—

The Doctrine of Acetonæmia.

Ever since the clinical features of diabetes have been carefully observed, physicians have been startled and puzzled by the frequency with which, in that disease, death comes unforeseen and unexplained. A patient, apparently in his usual condition, suddenly becomes drowsy and dull; the stupor deepens to coma, and the coma to death. Upon the cause of such death, post-mortem examination throws no light. Symptoms of cerebral depression, such as these, in the absence of a cerebral lesion, naturally suggest the idea that a narcotic poison is at work, and it has been thought by some that they may be due to the addition of uræmic poisoning to the diabetic state. In extremely rare cases the symptoms do resemble those of uræmia so closely as to make it probable that this condition in them does actually exist. In the vast majority of cases all the characteristic symptoms of uræmia are absent, and the theory that it is the common cause of diabetic coma is untenable.

In some cases the sugar in the urine has undergone a remarkable diminution on the appearance of the toxæmic symptoms, and it has been suggested that they may be due to a sudden arrest of excretion, and a retention of sugar in the blood —a condition of extreme glycohæmia. In the opinion of Cyr and others, this is a reasonable explanation of some of the cases of diabetic coma, but it is certainly inadequate to explain the majority, since in many no such arrest in the excretion of sugar is to be observed. Too much weight must not be attached to such occasional disappearance of sugar from the urine in this condition. So profound an alteration in all the functions of the central nervous system as must accompany the coma may well have, as its consequence, an arrest of the customary formation of sugar. Moreover, as far as it has been observed, the cessation of the excretion of sugar may be explained on another theory, which affords a more adequate explanation of the phenomena, and has been widely received as satisfactory.

A peculiar odour has long been noted to be occasionally given off by the breath, the urine, and even the feces of diabetics, and a similar odour has been noted many times in the body after death. Thirty years ago the post-mortem odour

was compared by Rother to vinegar, and the odour of the breath, by Brand, to the smell from persons who had recently inhaled chloroform, while Berndt compared it to that of beer. It was thought by Petters to resemble that of a mixture of chloroform and acetic ether or aldehyde, and was noted by him to be intense in all the tissues of the dead body. It was natural to regard this odour as the proof of the formation of a substance in the body by some decomposition of the sugar circulating in the blood, and to associate it with the symptoms of cerebral depression. The character of the smell led Lerch, in 1853, to suggest that it was probably acetone, a volatile ethereal liquid allied to chloroform in its properties. Petters endeavoured to test this opinion. By fractional distillation of the urine of a patient who had died of diabetic coma, he obtained a clear, highly refracting, inflammable liquid, having the boiling-point of acetone, and giving the same reactions—neutral, brownish with sulphuric acid, yielding a brown precipitate with caustic potash, and not reducing oxide of silver. From the blood the same substance was obtained in a similar manner. The observation has since been confirmed by several authorities. Acetone has even been said by Kaulich to be a frequent product of the acetous fermentation, which may take place in the stomach of dyspeptics, and he believes that it may arise by fermentation from grape-sugar. Anthron, indeed, obtained, by the fermentation of glucose, a liquid which Lerch pronounced to be acetone; and Kaulich argued that, although the ordinary vinous fermentation of glucose yields only alcohol and carbonic acid, yet since, under other circumstances, lactic and butyric acids may be obtained from it, it is conceivable that acetone may also be a product of its fermentation, because, by a decomposition, theoretically simple, grape-sugar may break up into acetone, acetic acid, carbonic acid, and water.

These opinions have been lately confirmed by Dr. B. Foster, who not only has found acetone in fresh diabetic urine, but has proved that acetone is capable of producing the post-mortem appearances found in diabetic coma—viz., a thick fluid state of the blood, which presents a milky opacity, due apparently to the destruction of the red blood-corpuscles, and he has, he believes, prevented death in diabetic coma by the administration of agents which possess the power of arresting fermentation.

In spite of these facts, however, we must still doubt whether the doctrine of acetonæmia is established beyond dispute. They certainly render it highly probable that the condition of diabetic coma is due to a poisonous substance of the acetous series, which is formed from, or perhaps replaces, sugar in the blood. But it is impossible to peruse the descriptions given by the several observers of the character of the odour perceived in the breath, urine, or tissues, without being struck with the variations in their statements. One compares it to chloroform, another to beer, another to sour beer, another to vinegar. This difference suggests that the substances in the blood may not always be the same. The observations of Kaulich and others on the occurrence of acetous changes in the contents of the stomach in dyspeptics point to the probability that the odour of the breath may be in part due to fermentation within the stomach, under the influence of the altered blood, and a distinct odour of acetone in the breath is thus scarcely proof that the substance exists as such in the blood. So, too, the rapid transformations of unstable compounds which occur in the tissues after death, and in the urine after secretion, necessitate caution in inferring that a compound found in either existed also in the blood during life. The circulating blood may contain only some substance capable of yielding acetone, and not acetone itself. That in some cases this is true is shown by an observation of Rupstein. He found that, by fractional distillation, a liquid having the odour and boiling point of acetone could be obtained from urine, and his observation has been cited in support of

the doctrine of acetonæmia. But he found that, although the urine after standing evolved an odour of acetone, no such odour could be detected in the urine when first passed. On the other hand, he found that it then contained a peculiar acid, which has been investigated by Geuther—diacetic acid. On boiling, or after standing for a considerable time, the urine ceased to give the reaction of this acid, and acquired the odour of acetone. This acid will break up, by assuming two molecules of water, into acetones alcohol, and carbonic acid; and Rupstein suggests that this is what takes place out of the body, and speculates that the same decomposition may take place in the blood. The same acid was found in the urine in another case by Kernig.

Another question remains: Is the presence of acetone in the blood an adequate explanation of the phenomena of diabetic coma? Many authorities—Senator, Lecorché, Cyr—assert that it is; and, as we have already mentioned, Foster has shown that it produces a similar pathological condition to that discoverable after death from diabetic coma. But the evidence from experiment is not altogether corroborative of the view. We are chiefly indebted for information on this point to the experiments of Kussmaul, who found that the effects of acetone resembled in the main those of alcohol. But, however analogous to the stage of stupor in alcoholic poisoning the phenomena of diabetic coma may be, a preliminary stage of excitement, such as is so frequent in alcoholic poisoning, is, as a rule, absent. Much weight cannot, however, be laid on this point. It has not, for obvious reasons, been practicable to make experiments upon man which afford a very close parallel to the phenomena of disease. Kussmaul has long been in the habit of using acetone as a remedy for dyspnœa, and has given a drachm or a drachm and a half daily without any ill effect. The subcutaneous injection of about twelve grains of pure acetone caused no other effect, in man, than a transient pain; and it required at least a drachm to produce toxic effects on a rabbit. It is clear, therefore, that, if diabetic coma is really acetonæmia, a very large amount of acetone must be generated in the system before the poisonous effects are produced. There is no doubt an adequate source for a large supply of acetone in the saccharine substances which pass through the blood, but the process by which so large a quantity could be generated is very difficult to conceive, and it is equally difficult to understand that the system can be so saturated with acetone without its characteristic odour being in all cases obtrusive. While temperature may intensify the odour by increasing the volatilization, such a quantity of acetone as must be present would certainly be recognizable at lower temperatures, and the presence or absence of pyrexia can scarcely account for the presence or absence of the smell of acetone.

The conclusion, then, to which we are led is that while there is strong evidence that diabetic coma is, in many cases at least, accompanied by, and probably due to, the formation in the blood of substances of the ethyl-acetic series, sometimes capable of yielding acetone, there is not yet sufficient evidence that the symptoms are due to the presence of acetone in the blood to justify the designation of "acetonæmia," and until the theory rests upon stronger evidence, it were better not to use a term which is certainly not urgently needed, and which further research may demonstrate to be inaccurate.—*Lancet*, May 11, 1878.

Progressive Pernicious Anæmia.

In a paper on this subject in the 3d and 4th numbers of the *Nordiskt Mediciniskt Arkiv* for 1877, Dr. S. T. SORENSEN reports eleven cases of the disease, which had come under observation in the Kommune Hospital, in Copenhagen, within a period of little more than a year and a half. Of these, seven were men and four women. The disease was fatal in every instance, and *post-mortems*

were obtained in nine cases. In ten cases out of the eleven, observations on the number of red blood corpuscles were made from time to time by Malassez' method; and these showed a diminution to a number varying from one-quarter to one-twelfth of the normal. Successive examinations showed a continual decrease in number, the last observation prior to death giving from 0.79 to 0.45 millions per cubic mm. The author concludes that 0.5 millions per cubic mm. is the minimum possible for the conservation of life. The individual red corpuseles presented abnormalities in colour, size, and shape; the colour was less intense than in health; some were twice and others one-half the normal diameter; and in all sizes there were irregularities in form. The reaction of the serum was normal, and when added to healthy blood produced no pernicious effect on the red corpuscles. The prominent symptoms of the disease, according to the author, are—anæmic symptoms; gastric disturbance; a pale, yellowish, but not icteric, hue; a considerable degree of fat, notwithstanding the great debility; *bruits de souffle* in the heart and vessels of the neck; retinal hemorrhages; the occurrence of irregular and unaccountable attacks of pyrexia. The result of the *post mortems* was briefly as follows. The blood, which was excessively thin, presented the appearance of meat-washings. There was granular and fatty degeneration of the parenchyma of various organs—viz., liver, kidneys, and adrenals. Fatty degeneration of the heart, and atheroma of the aorta. There were likewise, in some cases, numerous capillary hemorrhages. The marrow of the bones was noticed in four cases only, and in but one of these was a microscopic examination made. In two of those in which it was examined macroscopically only, the marrow of the ribs was of a reddish colour, and of a thinly fluid consistence. In the third case that of the sternum appeared normal. In the fourth case—that examined microscopically—the compact tissue of the ribs was thickened, and the medullary spaces almost empty. The marrow was in no place fatty, while in another it contained some blood corpuscles and a few transitorial cells. Eleven cases occurring in so short a period of time would point to the disease being anything but a rare one. Further, the statistics do not uphold the generally received opinion, that it more frequently attacks females than males. No connection could be traced in any of the four female cases to pregnancy or child-bed, nor in any of the entire number to unhealthy occupations or privation. One patient, however, attributed her illness to the fatigue of nursing a sick sister, and grief at her death. The author regards the disease as dependent on a mal-production, not a destruction, of the red corpuscles; and he attaches great importance to the numerical examination of them in the diagnosis of the disease. Transfusion of human blood, employed in one case, was not productive of any good.—*Dublin Journal of Medical Science*, May, 1878.

Cure of a Case of Hydrophobia.

We find in the June number of the *Lombardy Medical Gazette* a case of rabies, treated and cured by two Russian physicians, Drs. SCHMIDT and LEBEDEW. The patient, a child ten years old, had been bitten in the hand by a rabid pig. The wound was immediately cauterized with lunar caustic, and healed in ten days; but on the seventeenth day unmistakable symptoms of hydrophobia, viz., dysphagia, dyspnœa, spasm of the respiratory muscles, etc., appeared. The physicians at once ordered inspiration of oxygen gas. When three cubic feet of the gas had been breathed, the patient became quite tranquil; but the spasms returned on the following day. The gas was, therefore, administered for forty-five minutes, when the symptoms subsided. Nothing now remained but slight dyspnœa, and also some weakness of the lower extremities, which gradually subsided, the patient remaining well afterwards.—*Med. Examiner*, June 6, 1878.

Cerebral Syphilis.

We have still much to learn on this important subject. According to Dr. RABOT (*Gaz. des Hôp.*, No. 49), when tertiary syphilis attacks the brain, the seat of the disease is usually found in the arteries. The symptoms produced by gummatous degeneration of the cerebral arteries are frequently so well marked as to enable the surgeon to arrive at a correct diagnosis. The premonitory headache —usually confined to the frontal region—is characteristic, and frequently accompanied by disturbance of the intellectual faculties, such as loss of memory, with apathy or excitement, and in many cases with vertigo. The premonitory symptoms have a tendency to intermittence, but they may be quickly followed by transitory apoplectic attacks and impaired articulation. The iodide of potassium in large doses is the best remedy which can be employed. Its use has been followed in many severe cases by the greatest benefit, although a permanent cure is hardly to be expected. In Italy cerebral syphilis is combated by mercury; but the iodide of potassium is frequently associated with this specific.—*Med. Examiner*, June 6, 1878.

—

The Treatment of Catalepsy.

Dr. TEBALDI relates the following case (*Archivio Italiano*, 1877, Nos. 2 and 3). A student, aged 22, the son of very nervous parents, after severe and persistent study of law, philosophy, theology, etc., fell into a condition of ecstasy, catalepsy, and stupor. He was treated by Dr. Tebaldi with tonics, cannabis Indica, and electricity. The first dose of Indian hemp markedly stimulated the motor system. After the drug had been administered for four days, the patient (who had not voluntarily moved a finger for three months, nor spoken a word for five months) walked unaided from his room, ate his food, spoke a few intelligible words, then became very excited, dancing, laughing, and threatening those around him. Symptoms of paralysis of the bladder and rectum came on, and the treatment was discontinued. The treatment by electricity (two Stöhrer's elements) was given up after twenty-two sittings, its action being, on the whole, similar to that of the hemp. The most noteworthy difference was, that the latter acted chiefly upon the motor system, while the action of the electricity was most evident upon the sensorium. Neither method of treatment produced more than a temporary improvement, and Dr. Tebaldi concludes that the patient has psychic weakness, without disorganization of the brain-cortex.—*London Med. Record*, May 15, 1878.

—

Non-protrusion of the Tongue in some Cases of Aphasia.

Respecting this interesting and curious clinical phenomenon, Dr. HUGHLINGS JACKSON remarks:—

It will have been noticed by every medical man that some patients who have loss or defect of speech do not put out the tongue when they are asked. For the present we shall consider cases of *loss* of speech. The patients know what is wanted; they do the preliminary thing--opening the mouth—but very often the tongue lies flat and motionless in the floor of the oral cavity. The patient may put his fingers in his mouth to help the organ out. That the tongue is not paralyzed (we mean in the ordinary medical sense of the term paralysis) may be proved in several ways. As a rule, the patient, who can *say* nothing, can *utter* something; he has a stock word or phrase which comes out at any time. This is best called a "recurring utterance." The word or phrase being clearly articulated is decisive evidence that the tongue is not paralyzed. Then there are in some cases "occasional utterances." The patient may swear, or get out more innocent

ejaculations, as "Oh, dear!" These also are clearly articulated. Yet very early in a case of loss of speech there may be no sort of utterance. Then we can demonstrate that the tongue is not paralyzed by getting the patient to eat and drink. He will eat and swallow quite well, which he could not do were his tongue paralyzed. Again, after failing to put out his tongue when he tries, the patient may stick it out well to lick his lips. In one case an aphasic woman was vainly urged to put out her tongue. Mr. Lewis Mackenzie, the resident medical officer, got it out by a trick: he had found that after drinking she would stick her tongue out to lick her lips; she did so on this occasion.

This is a matter of great importance. In some cases of acute cerebral disease the non-protrusion of the tongue would be of great value in helping to the diagnosis of aphasia, as one symptom of that acute disease. In any case it would be a great blunder to suppose there to be paralysis of the tongue from disease of the lingual nerves or their nuclei in the medulla oblongata, because the patient did not put out his tongue when asked and when he tried. It is a thing of great scientific interest; considered along with some other symptoms of aphasia, it gives us a clue to the physiology of the whole of aphasia. Let us mention some other symptoms of fundamentally like significance.

Those who have examined the eyes of many aphasics will remember cases in which the use of the ophthalmoscope was very difficult; some aphasics do not, and apparently cannot, direct their eyes as they are told. Of course, in some cases of aphasia, there may be for a few hours or days, or in rare or severe cases for several weeks, lateral deviation of the eyes from the side paralyzed, as part of the hemiplegia; but we just now refer to chronic cases in which there is no ordinary affection of the ocular muscles; the difficulty is not in looking to one side in particular. Indeed, we see the same sort of thing in some people whose nervous systems are sound. Some people are unable to draw in their breath deeply when told to do so during stethoscopic examination; we have to tell them to cough. It is next to impossible to get some patients to frown (as in suspected one-sided facial paralysis), even if we make a frown for them to imitate. Returning to aphasia. The Recurring Utterance is often "Yes" or "No," or the patient may be able to utter both these words. Some of these patients can utter "No" emotionally, and some can do this and can also reply with it (use it propositionally). But of those who can reply with it there are some who cannot say it when told. After failing to get them to say it when told, we can easily get the word out as a reply to a question requiring dissent. Similarly of Occasional Utterances of less automaticity: a patient may swear well on proper (scientifically proper) occasions, and yet be unable to repeat the ejaculation or any word of it. The same applies to Occasional Utterances of still less automaticity, as is illustrated by the following excerpt from an unpublished paper by Dr. Hughlings Jackson written ten years ago: "I have seen a patient who usually sat up in his room, whose face looked intelligent, who was cheerful and merry, and who seemed to understand all that I said to him, but who could not put out his tongue when he tried. His daughter remarked that he could put the tongue out, as she expressed it, 'by accident,' and added, as an illustration of her meaning, that when any one was leaving him he could say 'good-bye,' but that he could neither put out his tongue nor say 'good-bye' when he tried. He could say 'yes' and 'no' at any time; and, using the lady's expression, could say 'good-bye,' 'well,' 'never' *by accident*. She further remarked that the patient would sometimes swear. He uttered the short explosive word which is so much in favour with English swearers, but he could not, she said, repeat the word when he tried. She asked him to utter the explosive sound when I was there, saying it herself for him to imitate. He laughed, and shook his head."

In some cases, where there is not loss but defect of speech, we see a similar sort of thing. The patient may get out a word, or even an elaborate phrase, and be quite unable to repeat it. This shows us that, in our trying to appreciate an aphasic's condition, we have not only to note what he *utters*, but whether or not he can *say* (repeat) what he has uttered. We frequently find that he cannot. In some cases a patient gets out, in proper reply to a question, such a phrase as "I don't know"—one, be it observed, of considerable automaticity. Afterwards he may go on uttering it in rejoinder to questions to which it is irrelevant. The patient may show that he knows this by expressions of mirth or annoyance after its utterance. But sometimes we can stop such temporary Recurring Utterances by telling the patient to say "I don't know," or whatever the phrase may have been. They often fail.

All the above superficially different phenomena are fundamentally like; they all show a reduction to a more automatic condition.—*Lancet*, May 18, 1878.

A Case of Asthma successfully treated by Sée's Method.

In a recent number of the *Wiener Medizinische Presse*, Dr. WINTERNITZ gives the details of a case of very severe asthma, which, after all the usual remedies had been tried, yielded rapidly to full doses of iodide of potassium. The patient was a man, 50 years of age, who had suffered for more than twenty years from difficulty of breathing. This symptom was much increased by the slightest exertion, and more especially by any catarrhal complications. The attacks of dyspnœa were at times most distressing, and the patient was often reduced to the last extremity. He was, in addition, the subject of a considerable enlargement of the thyroid body, which formed a tumour almost as large as a child's head. The swelling was of a cystic nature, and its contents had undergone calcareous changes; the patient's neck measured twenty inches in circumference. An analysis of the symptoms showed that the case was one of true symptomatic bronchial asthma, complicated by marked emphysema and enlargement of the thyroid body. The patient had read an account of Sée's method, and entreated Dr. Winternitz to make the experiment. The latter, however, hesitated, as the man was in weak health, and there were indications of fatty degeneration of the heart. The entreaties of the patient, however, at last prevailed, and iodide of potassium was administered for nineteen days, during which time about 530 grains were taken. The patient kept out of the doctor's sight all this time, lest he should be directed to discontinue the medicine. When he presented himself, he was found to be much reduced in weight and strength; there was complete loss of appetite, and the tongue had a coating more than three lines thick. The improvement, however, in his respiratory symptoms was most marked. The neck had diminished by more than four inches; the thyroid body was soft to the touch; the cyanosis had disappeared, and the lungs seemed comparatively normal. He was ordered to omit the medicine, and to take soups and buttermilk, and in a few days the digestive organs were restored to their usual condition. The patient declared that he was better than he had been for twenty-five years; that he could mount several flights of stairs without stopping; that his sleep was undisturbed; and that he awoke in the morning free from cough, and not experiencing any difficulty in breathing. Dr. Winternitz observes that, inasmuch as the dyspnœa was more marked during expiration, it could not have been due to stenosis of the trachea caused by the tumour of the thyroid. The emphysema, however, might originally have been due to this cause, and, if so, its diminution under the iodide treatment was the more remarkable. Dr. Winternitz considers that the treatment in question is worthy of an extended trial.—*Med. Examiner*, June 6, 1878.

On Thoracentesis.

Dr. LEONPACHER observes (*Aerztliches Intelligenz-Blatt*, April 2), that the operation of thoracentesis has greatly increased in value, in consequence of the labours of Kussmaul and Bartels (in Germany), and it is now resorted to by many. Dr. Leonpacher gives an account of several cases that came within his own experience. The first two in which the operation was performed died, not in consequence of the operation, but from marasmus and the accession of tuberculosis; the three other cases ended favourably. Of these, the first was the case of a brewer, aged 33, the subject of pleurisy on the right side, resulting in empyema. The thorax was punctured and a quantity of inodorous pus removed. Subsequently, the thorax was again punctured, and now the secretion was ichorous, and could be only partially removed by the suction process. An opening one inch and a half in length was therefore made in the fifth intercostal space, and a large quantity of bloody, purulent, and fetid exudation was withdrawn. The cavity was daily irrigated and washed out with a 2 per cent. solution of carbolic acid, through two Nélaton's catheters, one for the injection, the other for the exit of the fluid. Afterwards, one of these was found sufficient for all purposes. The cavity gradually contracted, the secretion diminished, and the wound was now allowed to close. The temperature immediately rose to 104° F., and four days afterwards a violent fit of coughing again opened the wound through which a large quantity of offensive pus escaped. The catheter was again introduced, and was retained at first in the cavity, and afterwards in the remaining sinus for several weeks, while carbolic solution was daily injected. The case did well, and recovered completely.

The second case was one of traumatic pleurisy in a young man, following a blow on the chest. For two years a fistulous opening existed on the left side, below the nipple, which discharged almost continuously a purulent secretion and through which the pleural cavity could be reached. A drainage-tube was inserted, and about seven ounces of offensive pus flowed away. The cavity was twice daily washed out with a solution of boracic acid (3 per cent.), and the tube was left in the wound, which was dressed with tow dipped in boracic acid. Instead of the boracic acid, an aqueous solution of 2 per cent. of tincture of iodine was occasionally employed.

The third case occurred in a farmer, who had suffered for two months from exudative pleurisy. An abscess had formed on the right side, between the angle of the scapula and the spine, from which flowed, on being opened, a large quantity of healthy pus. From this abscess a canal ascended behind the right scapula to the height of the spine of the scapula, and there communicated with the pleural cavity. As for purposes of treatment this canal was unsuitable, and as, moreover, at the site of the abscess the intercostal space was too narrow to admit the introduction of a tube, the thorax was opened in the fifth intercostal space between the axillary and mammillary lines, and a further considerable quantity of matter removed through it. Under continued injection of salicylic acid solution and dressing, the case did well.

The main points to be observed in the treatment of cases of thoracentesis are—1, the complete removal of the purulent secretion from the pleural cavity; 2, a continuous outflow of pus as it forms; 3, the total exclusion of all septic matter from the wound, and the arrest of the septic process if it have already commenced. The first point is secured by inserting through a canula a Nélaton's catheter into the bottom of the cavity, and through it injecting the various antiseptic solutions in use. It is sufficient to employ one catheter instead of two, as recommended by Frantzel. The injected fluid renders the secretion of the cavity thinner,

whereby its subsequent removal by means of the syringe is much facilitated. The patient should be placed on his back, and with the pelvis higher than the thorax, and the opening on as low a level as possible, and the discharge of any fluid is further aided by coughing or strong expiration; the catheter is then withdrawn, and the canula left in the opening. To prevent the access and entrance of dust, etc., a dressing of salicylic lint, or tow, which is cheaper and equally efficacious, should be applied over the wound, so as to cover the canula or drainage-tube.

Dr. Leonpacher concludes his paper with an account of a case of a penetrating wound of the thorax and right lung, in which he had ultimately to perform thoracentesis, owing to the accumulation of sanguineous pus in the pleural cavity. The treatment in this case was that recommended recently in the *Berliner Klinische Wochenschrift*, by the chief surgeon of the Danzig Hospital. It consisted in inserting at once a large-sized drainage-tube into the wound, and allowing it to remain there during the progress of the case, while the antiseptic injections were employed only at the commencement, and afterwards resumed only on the appearance of any signs of decomposition in the discharge; at the same time, the antiseptic dressings were more frequently changed. Under this management, the progress of the case was a remarkably rapid and favourable one.—*Lond. Med. Record*, May 15, 1878.

—

Acute Endocarditis affecting the Pulmonary Valves.

Acute endocarditis involving only the right side of the heart is a comparatively rare affection, and very few cases have as yet been recorded in which only the valves of the pulmonary artery were thus affected. Out of three hundred cases of heart disease examined after death in the Berlin Pathological Institution, there were only three instances of endocarditis of the tricuspid valve alone, and no case of the same affection confined to the valves of the pulmonary orifice. The following case, therefore, recently reported in the *Wiener Medizinische Presse*, is one of considerable interest. A young soldier was admitted into the garrison hospital in Vienna, having been thrown from his horse, and taken up in a state of unconsciousness. Violent delirium set in a few hours afterwards, but subsided on the second day after the accident, and consciousness became almost completely restored. There was no further indication of any injury to the brain. On examining the thorax the heart was found to be completely covered by the left lung; its impulse was nowhere perceptible; the sounds were heard over a small area—the second sound normal. Neither paralysis nor any perceptible alteration of sensibility in the extremities. Three days after the accident the patient again became unconscious, but on the following day he was able to complain of pain on the top of the head. He failed to put out his tongue when asked to do so, but was able to move it in other directions, and to speak with tolerable distinctness. Sonorous râles could be heard over the lower and posterior parts of both lungs. The man died six days after the accident.

On post-mortem examination the subcutaneous tissue of the forehead exhibited two small spots of effused blood. The pia mater on the convex surface of the brain was opaque, and contained a quantity of colourless serum. Corresponding to the lower surface of the left temporo-sphenoidal lobe, the dura mater was found to be perforated in a spot as large as a pea, and a fragment of brain-substance protruded through this opening. The ventricles were distended by a thin reddish fluid; the ependyma thickened, and dotted over with very fine granules. The lower lobes of both lungs were filled with a dark-red fluid, and the ramifications of the bronchial tubes contained thick yellow pus. The branches of the pulmonary artery on both sides were filled with loose coagula, some blackish-red, others reddish-gray in colour, but none adherent to the walls. There were a few small

spots of extravasated blood in the pericardium covering the heart. The middle and right pulmonary semilunar valves at their angle of contact were covered by a firmly adherent granular coagulum, grayish-white and grayish-red in colour, and about one millimetre in thickness. The other valves of the heart normal, spleen enlarged. The connective tissue covering the right psoas muscle, and between it and the iliacus was infiltrated with reddish-gray pus as far down as the insertion of those muscles. Thick yellow pus in the right wrist-joint. The diagnosis was therefore as follows: Psoas abscess of right side, due to fall from horse; metastatic recent endocarditis of the pulmonary semilunar valves; recent emboli of the branches of the pulmonary artery; lobular pneumonia of the posterior parts of both lungs; metastatic purulent inflammation of the right wrist-joint; ecchymosis of the pericardium; chronic hydrocephalus, internal and external.

Dr. Chvostek, under whose care the patient was, in remarking upon the rareness of such a case, observed that the question arose whether the endocarditis was of the ulcerous kind, and, in his opinion, it was so. In proof of this, he referred to the extreme rapidity of the symptoms, and their pyæmic origin, to the enlargement of the spleen, and the ecchymosis in the pericardium. The fact that no ulcers were actually present was to be explained by the shortness and violence of the attack, death having taken place before ulcers had time to form. The patient's illness, dating from the fall, lasted only six days, and the endocarditis, therefore, must have been of still shorter duration. According to Rosenstein, endocarditis is ushered in by parenchymatous changes in the tissue. The cellular elements become swollen, cloudy, and granular. The endocardium at the affected spots loses its brilliancy, and becomes opaque and of a dirty gray colour; if proliferation of the connective tissue nuclei goes on rapidly, granulations soon form, and at the same time the surface, deprived of its brilliancy and smoothness, becomes the seat of fibrinous deposit which incorporates itself with the subjacent tissue. The tiny granulations and the superjacent fibrinous deposit crumble away; the tissue softens, and the result is an ulcer, in and around which fibrine is continually being deposited from the passing blood. In the case in question endocarditis could not be diagnosed during life. There were no local symptoms, and the psoas abscess—the source of the mischief—was not discovered. The symptoms of the embolic processes in the lungs were only slight, and therefore insufficient for diagnostic purposes; the cerebral symptoms and the history of the case pointed to acute traumatic meningitis of the convex surface of the brain. As a general rule, ulcerous endocarditis can be diagnosed during life only in a very few cases. In the case in question the progress of the disease was very rapid. In the rheumatic cases observed by Rosenstein the disease lasted from two to four weeks, but when the disease supervenes during pyæmia or puerperal fever, it runs a more rapid course, and often terminates fatally in from four to six days.—*Med. Examiner*, June 6, 1878.

—

Effects of Military Drill upon the Heart.

The large amount of heart disease in the British Army has attracted much attention from time to time, especially since Mr. Myers's prize essay was published. It was shown there, that after deducting the effects of alcohol, syphilis, Bright's disease, etc., there was still found a great proportion of heart disease, which was caused by the uniform or by the drill service. Surgeon F. A. Davy, M.D., thinks that the form of drill in vogue is injurious, and is the direct cause of much injury to the thoracic organs. It appears that in the "setting-up drill," it is essayed, so far as is practicable, to make the soldier fill his chest and then perform all movements with the chest fully distended with air, the consequences of which

are a certain amount of emphysema with more or less embarrassment of the heart. The "stand-at-ease" is too brief for the heart to recover itself, and a condition of irritability or hypertrophy becomes established according to the nutritive powers of the individual. He says, "In the great majority of cases of heart-complaint invalided (other than those brought about by rheumatic fever, Bright's disease, etc.), of which the history is to hand, the early link in the pathological chain was forged in the drill-field. There has preceded the date of appearance at hospital a long period of uncomplained of discomfort, often distress, consisting of breathlessness on slight exertion, headache, and 'beating.' Now exertion has become unbearable. A man who never knew he had a heart (an expression many a soldier has used to me) becomes aware of his possession after a few months' dilating drill. He blames his recently donned pack and traps for his trouble; forgetting that as civilian he could have carried them manfully across the country ten or fifteen miles. Now, has this man been enlisted by mistake, or have we made him what he is?" This is a very serious question, and Dr. Davy seems to incline to the latter solution. If the drill be to blame—and it appears to be so—then the sooner it is reformed and brought more into accordance with our physiological knowledge the better.—*Brit. Med. Journal*, May 25, 1878.

—

The Infantile Diarrhœa of Summer.

At a recent meeting of the New York Academy of Medicine (*Med. Record*, May 25, 1878), Dr. J. LEWIS SMITH contributed a very interesting paper on this subject. As regards its treatment, he said he believed that there were but very few remedies from which it was necessary to select, and for his own part he scarcely ever employed more than two, viz., opium and bismuth, before the hydrocephaloid stage was reached, and these he considered better than all others. The administration of the large doses of bismuth now employed is of but recent origin, but has been followed by the best results. In ordinary cases it should be given in doses of ten or twelve grains, and it may be advantageously combined with the compound powder of chalk with opium (which contains one grain of opium in forty), or else with ordinary Dover's powder. For general use, however, it is perhaps better to give the bismuth in suspension, and the following prescription will be found a very admirable one:—

℞. Tinct. opii deodoratæ . . . . . gtt. xvj.
Bismuth. subnitratis . . . . . ʒij.
Syrupi . . . . . fʒss.
Aquæ . . . . . fʒiss.
M.

Dose, a teaspoonful for a child of one year.

Dr. Smith said that he had been much more successful since he had employed opium and bismuth in this way than before, when he would often try a long list of remedies in succession, and not find good results from any. Such a combination as the above is retained on the stomach, and has the effect of both an antiseptic and an astringent. No preparatory treatment is necessary, unless it is found that some irritating article of food has been taken; but most of the cases are considerably advanced when the physician is called in, and any such source of trouble has long since been gotten rid of.

Almost all cases of entero-colitis need stimulus, and brandy is the best form in which it can be given. Of course, the amount should vary according to the age, and Dr. Smith is in the habit of giving three drops for every month of the child's age (when under one year) every two or three hours.

When the hydrocephaloid stage of the disease is reached, the opium should be

withdrawn or given very cautiously; but the bismuth may be continued as before. At this period, however, we must depend principally on tonics and astringents, and one of the most useful agents that can be employed is the liquor ferri nitratis. The following prescription will prove of great service:—

℞. Tinct. calumbæ . . . . . f℥ij.
Liq. ferri nitratis . . . . . gtt. xviij.
Syrupi . . . . . f℥ij.
M.

Dose, a teaspoonful.

At the same time the stimulus should be kept up as before.

Finally, the kind of diet used is of the utmost importance. If the child is under one year old it should at once be removed to the country, or a wet-nurse should be provided for it, as no artificial food is reliable. If both of these are impossible, the best cow's milk should be prepared in such a way as to resemble healthy human milk as much as possible. The milk should be allowed to stand for some time, and then only the upper third of it employed. In this way the larger part of the sugar and butter will be obtained, while the indigestible casein (which settles to the bottom) will be avoided. As regards farinaceous preparations for children under six months old, Dr. Smith prefers Mellin's Liebig's food, which also has the endorsement of such authorities as Eustace Smith and Tanner. Its taste is quite sweet from the dextrine and glucose which it contains, while it is almost entirely free from starch. When added to cow's milk, it makes as good a substitute for mother's milk as has as yet been obtained. After the age of six months infants can digest a certain amount of starchy food, and then Robinson's prepared barley may be used with advantage, if it is sufficiently boiled. As a rule, however, Dr. Smith prefers Ridge's food, which is highly recommended by Steiner, of Germany. Dr. Smith formerly used to employ Nestlé's food, but has been obliged to give it up, when the bowels are affected, on account of its laxative effect. In cases of habitual constipation in young infants, which is often a very perplexing condition to the practitioner, he has found it of very great service.

—

Some Practical Reflections on the Treatment of Intestinal Invagination.

This subject forms the leading paper in the *Journal de Thérapeutique* of the 25th February and 10th March, and the remarks are founded on three cases of cure by electricity under the care of the writer, Dr. Bucquoy. Curiously enough, as he says, he had three cases of what he believes to be this affection within a very short time. The first was that of a rather delicate child, æt. 3, and the attack was characterized by vomiting and severe colic, with scanty stools containing blood and what seemed like shreds of mucous membrane. This was followed by a general swelling of the belly, and a more circumscribed tumidity of the left flank. No feces or flatus were passed since beginning of illness. After trying simple remedies without benefit, he had recourse to Faradization, one pole being placed in the rectum, the other on the abdomen. A very gentle current was thus kept up for about fifteen minutes. Half an hour afterwards a large injection of cold water was administered. Immediate relief followed the electricity, but not till the following morning, after another injection, were any feces passed. The tumour in left flank became much less, and the vomiting and colic quite disappeared. Another application of the interrupted current caused abundant stools, and the tumour could no longer be felt. While yet in attendance Dr. Bucquoy was called to case No. 2—that of an infant seven months old. Here there were the same persistent vomiting and severe colic. Unwilling to believe

that this was another case of the same nature, his doubts, he says, were soon removed when, after an injection, a considerable quantity of blood was passed, followed by swelling and tenderness of the abdomen. Faradization, employed as in the former case, was equally well borne, but with no immediate result, except that the vomiting quite ceased. On the following day neither flatus nor feces had passed, but on the third morning an injection brought away a large quantity of feculent matter. Electricity repeated caused several stools, and the swelling quite disappeared. Some remarks follow on the difficulty of diagnosis in such cases, and how satisfied he is of its accuracy in these two cases. Both commenced with persistent vomiting and most severe colic. Both patients were children, "of such an age, the latter especially, when an obstacle to the course of the intestinal contents has most frequently for its cause an invagination. . . . Cruveilhier held that the discharge of sanguineous mucus from the bowel is pathognomonic of this affection." The presence of a distinct and more or less localized swelling completed the diagnosis. The third case he admits is more complex, and the diagnosis more obscure. Mademoiselle de R., æt. 14, healthy looking, and well developed, is suddenly seized with violent colic and vomiting, which soon becomes bilious. Shortly afterwards a circumscribed swelling in the hypogastrium is noticed, dull on percussion, and slightly painful on pressure. There is also a general swelling, resembling very much that of the seventh or eighth month of pregnancy. Neither urine nor feces passed since the morning when symptoms began, although an injection had been given. The interrupted current was then applied as in the former cases. Patient stated she felt as if something gave way, yet no action of the bowels followed: urine was passed in great abundance, which did not, however, affect the swelling in any way. Slept well that night, and an injection given on the following day had no effect. Colic less; no vomiting; abdomen slightly painful on pressure. Two applications of electricity on this the second day produced two very scanty stools. On third day tumour as large and more sensitive. Faradization borne with difficulty on account of the pain. Twenty grammes of castor oil and one drop of croton oil given, producing two abundant stools, and giving considerable relief to the patient, but causing great weakness. Abdomen now less painful, but swelling unaffected. During the night seven abundant stools. On fourth day great improvement, though tumour is still there. Repeated purgation caused copious bilious stools, and the patient gradually recovered her health. The tumour, however, had undergone little or no change a month later (5th February). He remarks on the vomiting, colic, etc., as at first fixing the diagnosis, while he considered the tumour to be caused by the invagination. It was only after repeated purgation, and the tumour remaining unaffected, that he had any doubts. He excludes ovarian cyst or uterine tumour, but can give no satisfactory explanation of it. He then discusses the treatment generally, and believes that the success of the electricity was due to its early application "before any inflammatory complication had been set up." He refers to those who have tried it in somewhat similar cases since introduced by Leroy, such as Duchesne, Christison, Stokes, but the details of the cases, he says, are few and indefinite. In his cases the application lasted about ten minutes each time, and was easily borne, even by the infant of seven months. In the cases quoted from others this does not seem to have been the rule, and his success he ascribes to the employment of a very feeble current, especially at first, while the reophore is pressed gently on the abdomen. The effect of the application is not immediate. It is generally some hours before an alvine evacuation takes place, and that usually after an injection has been administered.—*Glasgow Med. Journal*, June, 1878.

Spontaneous Rupture of the Spleen.

Mr. E. MARKHAM SKERRITT, Physician to the Bristol General Hospital, reports (*British Medical Journal*, May 4, 1878) the following case in which splenic apoplexy and consequent rupture of the capsule of the spleen, took place under what is believed to be very rare and, perhaps, unique conditions. The case is of interest clinically, and also has a medico-legal importance to which a recent trial in India calls special attention.

The patient was a shepherd fifty-three years of age, admitted into the Bristol General Hospital on July 4. He stated that, up to two months before admission, he had enjoyed good health; then he began to suffer from nausea and pyrosis, and entirely lost his appetite. He had done no work for six weeks. A month before admission, he had an attack of epistaxis, which lasted about twenty-four hours, during which time he lost much blood. Since this, he had noticed a sensation of beating in the upper part of the abdomen. Just before admission into the hospital, another severe attack of epistaxis came on; the patient was, however, able to walk up into the ward without help.

When I saw him next day, he was almost blanched from loss of blood, but cheerful and anxious to give all the information in his power. The heart's impulse was weak, and there was a faint systolic apex-murmur; the pulse was feeble and the vessel degenerate. The abdominal aorta was pulsating to a marked degree, but no distinct dilatation of the vessel could be made out; a systolic *bruit* was plainly heard in the vessel, but was found to be only due to pressure. There was no pain or tenderness in the abdomen.

I concluded that there was no aneurism of the aorta, and that the pulsation and *bruit* were due to the anæmic condition consequent upon the loss of blood.

Soon after 9 P.M. the same day, the patient, who up to that time had seemed no worse, was suddenly seized with great dyspnœa and symptoms of collapse, which ended in death in less than an hour.

Post-Mortem Examination.—There was a large quantity of dark fluid blood in the peritoneal cavity. There was no aneurism. The capsule of the spleen was greatly distended; on the anterior aspect of its peritoneal surface there was a rent an inch long, through which the finger passed into a large space full of fluid blood. At first sight, it seemed as if the enlarged spleen were split longitudinally into two halves, which were separated along their whole length by this layer of fluid blood about an inch and a half thick; it was found, however, that the capsule had been stripped of the whole peritoneal surface of the spleen by blood effused between it and this surface, and that one of the apparent halves before mentioned was simply a firm layer of dark clot, about three-quarters of an inch thick, forming a thin cake applied closely to the inner surface of the capsule, and separated from the spleen itself by the layer of fluid blood before described. The exact source of the hemorrhage could not be found. The splenic substance was of a brick-red colour, and very soft and pulpy (there had been considerable *post-mortem* change). The spleen and clot together were eight inches long, five inches and a half broad, and three inches and a half thick, and weighed twenty-six ounces. The rest of the organs were very anæmic, but otherwise healthy.

Remarks.—Rupture of the spleen is not a very uncommon occurrence; but almost invariably it is caused by external violence, such as blows, crushes, falls, or wounds by fractured ribs. Instances have been met with, however, where the organ has ruptured spontaneously; in conditions where it is intensely congested, as in typhus, cholera, and the cold stage of ague, where it is probable that weakened texture has been combined with extreme congestion. But I have been unable to find any record of a parallel case to the one that I have related, where,

at the time of the rupture, the patient was suffering from no acute disease, and had been quietly lying in bed for hours.

If we consider the state of the spleen *post-mortem*, we see that the first event was hemorrhage within the capsule, giving rise to the large clot before described, which, from its characters, must have been formed some time before the fluid blood was effused and the capsule gave way. There was the following sequence: first, hemorrhage between the spleen and the capsule; then cessation for a time; then more blood poured out, and in such quantity that the capsule gave way. Hence the actual rupture of the capsule was secondary and accidental.

Was there any *congestion* of the spleen as the first event? I think not; rather the opposite. The man had just been blanched by severe epistaxis, and there is no reason to suppose that the spleen would be other than anæmic, like the rest of the body. The conclusion must be that the same weakness of vessel that caused the repeated bleeding from the nose led to the hemorrhage into this organ, especially as this occurred at a time when the force of the circulation had been much reduced by loss of blood.

I now turn to the medico-legal aspect of the case. Some months ago, a trial took place in India which excited much interest. The following short account I take from a medical periodical. "A curious medico-legal point was involved in a recent trial for manslaughter in Ceylon. A coolie was treated with some severity by the superintendent of a plantation, and died almost immediately from rupture of the spleen. The man had had fever lately; the spleen was large and soft. It was urged for the defence that the spleens of coolies sometimes rupture spontaneously on severe muscular exertion; that the exertion of running away might have ruptured the spleen; and that death would not be the direct result of the action of the accused. This theory was discountenanced by the medical witnesses, and we think rightly. An accident so rare, *and even doubtful*, as such rupture of the spleen must be, cannot be allowed weight in the presence of evidence of direct violence. The Chief Justice ruled that the rupture was distinctly the result of the violence. The prisoner was found guilty." If I remember rightly, the exact occurrences were these. The coolie received a box on the ear and fell down; he then got up, ran away, climbed over two walls, and, in so doing, fell from the top of one or both of them; he then quickly became collapsed and died. Here was plenty of muscular exertion; besides that, the fall from the wall represented a greater degree of violence than did the previous simple fall of the coolie off his feet. If the assault caused the rupture, it did so indirectly only by causing the fall; for there was no direct violence to the abdomen. And, if this were enough to produce the laceration, how much more were the muscular exertion and the accident that followed, with which the accused had nothing immediately to do! It seems to me also improbable that a man with a ruptured spleen would run away with the activity that this coolie showed.

With regard to muscular exertion as a cause of rupture of the spleen, cases illustrating this have occurred in this country; thus Sir James Simpson refers to three cases of fatal rupture which occurred respectively during the pregnant, the parturient, and puerperal states; in each instance, after some unusual exertion. Another case is recorded in the *British Medical Journal* for 1874, by Mr. Atkinson, of Leeds, where the accident was apparently due to violent vomiting set up by indigestible food.

The case I have related differs from all those that I have been able to find recorded in this important particular: that there was entire absence of any special muscular exertion; for the patient had, in fact, been in bed for hours before the rupture occurred. And I think that I am warranted in concluding that this instance has established the fact that rupture of the spleen may occur purely spon-

taneously, in the absence of any condition ordinarily associated with congestion of the organs, and apart from all external violence or special muscular exertion.

—

Dysidrosis and its Morbid Anatomy.

Dr. TILBURY FOX, Physician to the Department for Skin Diseases, University College Hospital, makes the following remarks (*British Med. Journal*, May 25, 1877) on dysidrosis and its pathology:—

For some years I have taught that there exists a special inflammatory disease of the skin, commencing in the sweat apparatus, and characterized in its early stage anatomically by the development of little vesicles imbedded in the skin, which occupy the site, and are produced by the distension, of the sweat-ducts by fluid sweat rapidly becoming mixed with and altered by inflammatory fluid. This disease is usually confounded with acute eczema.

A typical case was admitted into the hospital a fortnight ago, under my care, and exhibited the disease in both its earlier and later stages. I pointed out to you amongst other things the naked eye characters of the disease at its commencement; how the ridges of papillæ on the palms appeared to be redder and more distinct than usual, from the fact that they were in a state of tumefaction; how the sweat-follicles, or rather their orifices, appeared to be peculiarly distinct and recognizable; and how these follicles were apparently distended to form vesicles, which looked like little sago-grains imbedded in the skin. At least, these early vesicles were seen to be deeply seated, and not produced by any elevation of the cuticle, and we thought we could make them out to occupy the site of the sweat-ducts, and trace transitional stages between increased distinctness of the follicular orifice and the formed vesicles. I explained also that the sweat-duct opening could be clearly made out in the centre of the imbedded vesicle.

I promised to try to obtain the patient's consent to the removal of a piece of skin for careful examination; and you will be glad to hear that I have succeeded. Some of you saw me mark between two ink lines a portion of skin containing a few ridges of papillæ, where I stated that characteristic vesicles existed in an early stage, *i. e.*, about the fourth day of the disease. The portion of skin was removed, and Dr. Crocker kindly took charge of it for the purpose of preparing some microscopical sections, which he has accordingly done with much success. Dr. Crocker and I have carefully examined these preparations, and I will now acquaint you briefly with the main results obtained. You shall examine, however, some of the preparations for yourselves.

It has been stated lately by several observers that dysidrosis is not a disease of the sweat-apparatus, and Dr. Robinson of New York especially, in a recent article in the *New York Journal of Dermatology*, professes to have proved that the vesicles are formed by distension of the rete mucosum by inflammatory fluid effused from the vessels of the papillæ; and he figures the vesicles seated over the papillæ.

Whether Dr. Robinson's case was a true instance of dysidrosis or not I cannot say, but our present case undoubtedly is; and what we find in our specimens is conclusive evidence that the sweat-ducts are very large and in some cases distended at their upper part, and that the vesicles are formed in connection with the sweat-ducts. Out of seventy or eighty specimens, we can only detect two instances of vesicles having any definite relation to the papillæ. The majority are distinctly formed *between* the papillary projections of the rete, their central axis being opposite to or a continuation of the depression in the rete answering to the usual spot where the sweat-coil enters the rete from above. In some cases, the duct, as it enters the rete, seems larger, as though commencing to dilate; but we can trace the sweat-ducts entering the little vesiculations or globular dilatations,

sometimes at the central point of their summits, at other times more to the side, but still distinctly entering. We can see the sweat-ducts leaving the base of the vesiculations, in some cases at the central point. In some specimens, the duct projects slightly into the vesicles, and then its continuation is seen running from the direction of the bottom of the vesicle and continuing its course through the corium. There is one remarkable specimen of a twin vesicle with two contiguous sweat-ducts clearly entering the vesicles. In none is the horny layer of the cuticle raised into vesiculations at the early stage of the disease. We have searched in vain for the early phenomena of *eczematous* inflammation. In our sections, the sweat-ducts are everywhere unusually well seen. Dr. Robinson figures none. As to the changes that go on in the deeper portions of the sweat-gland, further investigation is needed; but I have little hesitation in saying that I regard the appearances seen in some of the sections as indicative of commencing inflammation. The cell elements of the wall of the gland-ducts and of the tissue of the gland-coil and its envelope seem augmented.

To my mind, the views I have taught in this School about dysidrosis are fully vindicated by these preparations. In my *Atlas*, published in 1877, I remarked that "if the skin be examined at an early stage with a lens, in many cases it will be seen that these little pearly spots answer exactly in situation to the sweat-ducts, and indeed they are distensions of the sweat-apparatus. This has been represented in Fig. 3, which was the exact appearance seen in the case, and which was most plainly put by several others beside myself. This conclusively proves that the disease is essentially a disorder of the sweat-apparatus." As to the mechanism of the production of these vesicles, I wrote as follows, in 1873: "It seems to me that there is a sudden efflux of sweat, and the flow is so rapid that it cannot escape, the whole gland is distended, at least its duct, and the fluid presses up from below only to block up the upper portion of the duct by pressing together the twists of the duct in that part of the cutis where it runs in a spiral manner. If there be sudden pressure from below, the spiral twist of the duct must greatly favour the dilatation of the duct. In sudamina, I take it, the opening is plugged by exuviæ, and the sweat finds its way laterally between the horny layers of the cuticle. . . . ." I think the basis of the above explanation holds good. Dr. Crocker and I propose to work out the anatomy of dysidrosis, as far as we can, more fully, and to place on record our joint observations on the matter. I thought it well, whilst the clinical features of our recent case were fresh in your minds, to show you these specimens, and thus vindicate the correctness of my teaching on the subject during the last few years.

An Anomalous Mottled Rash, accompanied by Pruritus, Factitious Urticaria, and Pigmentation.

At a late meeting of the Clinical Society of London (*Med. Times and Gaz.*, May 18, 1878) Dr. A. SANGSTER read a paper on this case. C. F., aged two, a healthy, well-nourished boy, came under notice last August, suffering with an obscure skin affection. The trunk and limbs were covered, in some places more thickly than others, with a buff-brown and buff-red coarsely mottled rash. The buff-red mottling was most marked on the thighs and legs; here the disease presented much the appearance of a measles rash. The parts least affected were the backs of the arms and forearms, the loins and buttocks; the palms and soles were free; the flexures were specially affected. On passing the hand over the surface, some of the diseased patches were felt to be slightly raised, but this was scarcely noticeable. Nowhere, by pinching up the skin, could any increase of substance be made out. On stretching the skin over the redder patches, the red colour dis-

appeared, leaving a pale buff discoloration. There was much pruritus, especially at the flexures. Scratching led to the production of urticaria wheals. The mother stated confidently that the latter never appeared but as a result of irritation by scratching or rubbing. There were no other lesions of the skin, no papules, blood-crusts, or desquamation. The points of interest in the patient's history were, that a grandmother and uncle had psoriasis, that the patient was severely jaundiced in infancy, as was also a younger child, since dead; and that, according to the mother's statement, the patient's skin had always risen in "bumps" upon the slightest irritation. Even handling the child during the process of dressing would cause "the bumps to rise." The eruption had commenced as a red mottled rash on the abdomen when the patient was two months old, and was thought to be measles; however, it persisted, and had gradually spread, first over the trunk, and then to the extremities. As the patches became old they turned brown. The disease had defied treatment, internal and external. In appearance this eruption was similar to some others brought before the Clinical Society by Dr. T. Fox, Dr. Barlow, and Mr. Morrant Baker, and judged by Dr. T. Fox to be allied to xanthelasma; while Mr. Hutchinson considered them to be of the nature of urticaria. The essential feature of the disease above described appeared to be a vaso-motor change in the skin, occurring spontaneously, and also as a result of the most trifling irritation, the above vaso-motor change having a tendency to become permanent, and ultimately leading to pigmentation.

Dr. TILBURY FOX thought the case belonged to the same category as those which Mr. Morrant Baker and he (Dr. Fox) had shown to the Society in 1874, though there was, however, much less, and indeed very slight, elevation of the patches or blotches in Dr. Sangster's instance. In his (Dr. Fox's) Atlas he had figured a patch of the disease, which was flattened and made up simply of apparently dull buff-coloured stains only; and in one of the cases he had recorded, after an interval of five years, the patches had almost subsided, and now only deep-coloured stains remained, so that, under certain circumstances, the patches of the disease were not much elevated. If the Fellows would look at two top figures in plate 60 of Willan's coloured delineations (which he handed round), they would recognize the disease now under discussion; and Willan, in all probability, under what he termed vitiligo, intended to represent this same disease. He spoke of elevations in the early stage subsiding, and leaving the skin checkered in a curious way; and figured the early red irritable and the late dull mottled pigmented aspect of the disease. Dr. Fox did not think the disease could be called urticaria. It was no doubt liable under irritation to become hyperæmic and irritable; but a disease made up of patches, which patches actually remained without much change for years, could scarcely be called urticaria. If the disease were an urticaria, we must completely revolutionize and change our notions of urticaria, as made up of evanescent hyperæmic spots connected with vascular spasm. Further, one knew that microscopic examination had shown that the tissue of the skin, in the disease under consideration, was infiltrated with a new cell-growth, like lupus in character. Then, again, the disease might be congenital. The main practical clinical point about the disease to remember was, that it was liable to be mistaken and treated for syphilis—a considerable error, which might be fraught with evil consequences.

Mr. HUTCHINSON expressed his pleasure in having seen Dr. Sangster's patient, and heard his clear description. He also congratulated the Society on the fact that it had been the means of bringing under discussion so many examples of such a rare disease. In former sessions, three well-marked cases had been submitted for inspection: one by Dr. Tilbury Fox, one by Mr. Morrant Baker, one by Dr. Barlow; and each case had illustrated a different stage of the disease. The first

two were the most severe, the third much less so; and now Dr. Sangster's patient showed it in a comparatively mild and early stage. Taken together, the cases, to any one who admitted that they all represented the same malady, were most instructive, and not far from conclusive as to its real nature. In Mr. Baker's case the child was covered with brown wheals and ridges, which were in a quiescent state, and from month to month, or even from year to year, underwent but little change; but in Dr. Sangster's case the state of things was different. Here we had the brown stains and some approach to ridges, but scarcely any thickening, and the conditions, although they had lasted long, were constantly undergoing local change; and, above all, we had in addition the very easy production of urticarian wheals. No one who had seen this child's skin, and noticed how the slightest touch sufficed to bring out a wheal, looking exactly like a nettle-sting or a flea-bite, could possibly doubt that, for one thing at least, the child had urticaria. He congratulated the author of the paper on the name employed "urticaria pigmentosa," for he had no doubt that it came very close to the truth; and, further, that it was applicable not only to this, but to the other cases. It had been objected that we knew nothing of urticaria as a malady lasting for years; but he believed that, in reality, some of the forms known as urticaria perstans were of quite indefinite duration. Besides, it was not quite literally true that in these cases the urticarious stage lasted for many years; it was rather its results in the way of thickening and pigmentation which were so persistent. His theory of the malady was that it was urticaria occurring at an unusually early age, and in connection with some peculiar condition of pruriginous skin; that it was evoked by local causes, and in the first periods kept up by them; and that in the end the skin became permanently thickened and discoloured by the long persistent inflammation. He would further add, as a conjecture, that the original irritation would in all probability be found to be bites of bugs or fleas, or both. He held that it was almost impossible to allow so wide a range of variation for the consequences of bites. As a rule, young infants were not very much irritated by them, but sometimes they were dreadfully affected, and sometimes the consequences were by no means transitory. In Dr. Barlow's case, which he had been permitted an opportunity of examining in the hospital, he believed that he had identified the results of bites.

Dr. SANGSTER said that, in reference to Dr. Fox's observations, the eruption had never been more raised than it was at present. In cases of pruritus one might generally suppose the pigmentation of the skin was due to the congestion of the skin produced by scratching. In this case the pigmentation could not be due to that cause, since it began when the child was only two months old. He thought, however, the pigmentation was due to local causes, possibly to the flannel binder. The child had been in New York, and the mosquito-bites there received did not give rise to any other than the usual effects in the skin. Vaccination also had produced no pruriginous eruption. The child had been jaundiced when very young, and the frequent connection of disease of the liver with innervation of the skin and skin-disease was suggestive.

Mr. CALLENDER had not long since seen a gentleman with permanent discoloration of the skin about the face and neck, due to the bites of mosquitoes.

Dr. TILBURY FOX had also witnessed the same thing.

Cacotrophia Folliculorum (*Follicular Malnutrition*).

At a late meeting of the Clinical Society of London (*Med. Times and Gaz.*, May 18, 1878), Dr. TILBURY FOX, in a paper with this title, sought to bring before the profession a disease of the hair-follicles characterized by special fea-

tures, and clinically distinct from those generally recognized. He had exhibited a drawing of it, with a brief description, at the annual meeting of the British Medical Association at Manchester in 1877; and Mr. Erasmus Wilson had, in his latest course of lectures in January of this year, used the same drawing to illustrate some more detailed and independent remarks. Dr. Fox sketched lightly the pathology of the several papular diseases situated at the hair-follicles, and characterized by retention of exuviæ with secondary congestion by simple follicular torpor, or by primary congestion with its consequences—viz., pityriasis pilaris, lichen pilaris, and scrofulosum, planus, ruber, and simplex; and he argued that the drawing shown illustrated a condition distinct from any of these. At first sight it appeared to him to be nothing more than ordinary but severe lichen pilaris; and in this category, no doubt, it was ordinarily placed, but it differed in its severity, the deeper and more complete affection of the follicles, its congenital nature, its more general distribution, and its obstinacy to treatment. Dr. Fox then considered lichen pilaris more closely, as being the disease in external features most like cacotrophia. Willan described lichen pilaris as a "modification of lichen simplex, the papules appearing only at the roots of the hairs of the skin"—in fact, as an inflammatory state of the follicles. But most modern writers meant either a follicular torpor due to plugging by epithelial exuviæ or altered sebum, or a simple inflammation with exudation into the follicle, especially confined to its upper part, and the consequent formation in both cases of papules pierced by hairs, which remained practically unchanged. It was brought about by many local and general causes, such as uncleanliness, local irritants, and blood and constitutional states. Lichen pilaris was not often seen in the very young; it was an acquired disorder, was more or less localized to particular parts, especially the thigh and outer side of the arm and forearm; and, lastly, it was not notably obstinate. The eruption of cacotrophia folliculorum was made up of solid red papules, the size of a pin's head, which were seen to be situated at almost every hair-follicle, and these papules stood out from a rather reddened base. Though the disease had a special predilection for parts, such as the outer aspect of the arm, the back of the shoulders, the thighs, the trunk, and the sides of the face and forehead, which was sometimes the seat of seborrhœa sicca, still the eruption was of very general and extensive distribution. The hairs had mostly disappeared, those that remained being stunted and twisted, and the interfollicular portion of the skin was reddened, the whole thing often bearing a striking resemblance to xeroderma. In this affection the deepest portions of the hair-follicle, including the papilla, were affected, and the formation of the hair interfered with. It was not an inflammatory condition, but one essentially of defective or indolent nutrition, with plugging of the follicles and some passive congestion. Individuals were affected from the earliest age, or it might be truly congenital, and was not acquired later on in life. A very important point was that the disease occurred in subjects—mostly young women—of a lymphatic, strumous, or phthisical tendency, and was brought into prominence and especially attracted notice about the period of increased physiological activity, viz., puberty. The paper was illustrated with the detailed notes of four well-marked cases.

Mr. HUTCHINSON scarcely knew why these cases should be separated from cases of xeroderma or ichthyosis, which was a congenital cacotrophy of the whole skin; whereas this was simply a cacotrophy of the follicles only.

Dr. WILTSHIRE thought the disease rather common amongst insane children of Mongolian type, with clubbed fingers and blue eyes.

Dr. TILBURY FOX, in reply, said he was quite aware that there was a plugged state of the follicles in connection with ichthyosis, but that was not the condition he had described in the paper he had read, and it was not very likely that both

he and Mr. Erasmus Wilson should have made a blunder upon so simple a point as that. He doubted if Mr. Hutchinson (at least his remark seemed to show as much) was exactly conversant with the disease under discussion. He (Dr. Fox) did not know of any published account of the condition.

—

Chrysophanic Acid Ointment in Psoriasis.

Dr. NEUMANN, of Vienna, thus endorses (*Wiener Mediz. Presse*, No. 14–16, 1878) Mr. Balmanno Squire's treatment of psoriasis by an ointment of chrysophanic acid, as first communicated by Mr. Squire in this country at the latter end of 1876. After giving due credit to Mr. Squire, and to the other English observers who followed him in this research, the professor winds up his paper with the following summary: 1. Chrysophanic acid derived from Goa powder is an excellent remedy for herpes tonsurans, pityriasis versicolor, and psoriasis vulgaris. 2. Psoriasis in its earlier stages begins to disappear after a few applications of the drug, and in a far more unequivocal manner than under any other remedy that has ever yet been used against psoriasis. 3. Even inveterate forms of the disease can be abolished by means of chrysophanic acid, and it is quite the exception to find them oppose any protracted resistance to it. 4. Chrysophanic acid is a perfectly painless application to the diseased skin. The morbid phenomena occasioned by it on the healthy skin result apparently from the admixture of resinous matter with the acid. 5. As a result of this mode of treatment, psoriasis belongs no more to those skin diseases which in so high a degree are a source of misery to the patient, and it has now become an easy matter to cure relapses. Every patient with psoriasis that I have as yet treated by this means gives the palm without hesitation to this method of treatment in preference to all others. In any case, this at the least is emphatically true; namely, that the therapeutics of skin diseases have for the last ten years been enriched by but few remedies which have been crowned by so eminent a success as the one in question. 6. There are other skin diseases, also, which are curable by chrysophanic acid. 7. He expresses a hope that this method may be examined by other observers; and he does not doubt that it will soon permanently assume its due rank amongst the treasures of therapeutics.—*British Med. Journal*, May 25, 1878.

Surgery.

The Surgical Pathology of the Nerves.

This generation has witnessed a remarkable extension of the domain of practical surgery in the direction of both the magnitude and delicacy of the operations which have been attempted and achieved. The structures which have been regarded as beyond the range of legitimate surgery, which allow of no traumatic interference, the nerves themselves, are no longer to be left in their isolation. Nerve-stretching has been proved to be an operation free from the risks which might reasonably be supposed to attend it. Nerve-suture has been performed, and there are reasons to believe that it may come to be an operation more frequently practised than it is at present. On this account the careful experimental study of the histological changes which attend, and the functional results which follow, the union of divided and sutured nerves is of great importance, and we, therefore, call the attention of our readers to some recent and interesting researches by Dr. T. GLUCK which have

been made in the Pathological Institute at Berlin, and are published in Virchow's *Archiv*.

The subject has been studied by Eichhorst, especially in the union of minute nerve-branches, but Gluck has preferred to make his observations upon larger nerves, on account of the greater facility for surgical treatment and histological investigation which they present; and his results, which differ somewhat from those of Eichhorst, are of correspondingly greater importance to the surgical pathologist. The nerves selected were the sciatic in the fowl, a creature in which union of a divided nerve occurs with considerable facility; and the vagus in the rabbit, in which, from the tendency to tissue degeneration, nerve-union is much less easy to obtain. These two nerves afford considerable facility for experimental study of the change in their function.

When a nerve is divided the first evident change is that the sheath retracts, and the myelin spreads over the cut surface, while blood is effused into the ends of the nerve and the wound. In a few days the ends of the divided nerve are connected by gray translucent tissue. The further changes depend on the distance between the two ends. The removal of one or two centimetres of nerve prevents all regeneration, even after many months, if the ends are not brought together by artificial means. The nerves and muscles degenerate, the limb wastes, and the fowls die about the fifth month. If, however, the ends of the nerve are carefully sutured together, by preference with catgut, the result is quite different. The closer the approximation and coaptation of the two ends the less is the amount of tissue formed about them, aptly termed "nerve-callus," and the less is the degeneration below. The histological changes which have been found are the following. If a centimetre is removed, the space between the two ends is filled by a soft cellular granulation tissue, containing vessels; the ends of the nerve undergo degeneration. One or two months later only a dense fibrous tissue is to be found in the interval, containing no nervous constituent. Gluck did not in any case succeed in obtaining regeneration when a large piece of the nerve had been removed. If the nerve was simply divided, and the ends approximated, the result was very different. In twenty-four hours spindle-cells, arranged in series, and surrounded by an abundant intercellular material, lay between the two ends. After eight days the ends were connected together by nerve-fibres destitute of myelin, and from that time there was a gradual formation of the myelin-sheath, the protoplasm becoming darker, and tinting more and more by the action of osmic acid. No degeneration is visible in the central end, except the slight escape of myelin from the divided extremity of the nerve, but in the peripheral end there is a slight indication of degenerative changes. The nuclei of the neurilemma multiply until about the sixth day. The process is thus a union by first intention in the strict sense of the word.

When a piece of a nerve is excised, and the ends brought together by sutures, the process is somewhat less simple, and less rapid in its course. On the third day the divided ends are connected by soft translucent tissue, in which the catgut sutures are visible, and here and there a little reddish-brown pigment. Microscopically the two ends are hardly to be distinguished; each presents thrombosis in the minute vessels, and a somewhat wavy appearance of the nerve-tubes. In the young granulation-tissue between the ends of the nerves, about the fifth day, peculiar fusiform cells appear, dark granular, and bearing considerable resemblance to the ganglion-cells of the nerve-centres. These appear to connect together the axis cylinders of the divided ends, their continuity with which can be sometimes distinctly traced. The rapidity with which this fusion of the ends of the nerve occurs, determined by the distance of the ends apart, influences the extent of the degeneration in the divided ends. If a nerve is only partially

divided, is wounded without complete section of the nerve-sheath, this restoration of continuity is most speedy; it is so, next, when the coaptation of the divided ends is perfect, and when by the eighth or fourteenth day all the nerve-tubes are connected. In such cases the granular or fatty degeneration is slight, and no axis cylinders destitute of myelin are to be seen in the ends of the nerves.

It has been maintained by Eichhorst that in the process of union and restoration a new axis cylinder and medulla are formed by extension from the centre towards the periphery, but there is considerable difference between the facts which he and Gluck witnessed. The latter found that a bridge between the two ends was completed at the time at which, according to Eichhorst, the degeneration is at its height, and the regeneration is yet far away. Gluck maintains that the axis cylinders do not perish, and that by the fourteenth day, both in the cicatricial tissue and the peripheral end, there are axis cylinders without myelin; but at this period Eichhorst thought the axis cylinders were only beginning to bore through the tissue which separates the ends of the nerves.

The means by which the union of the axis cylinders occur is believed to be the peculiar fusiform cells, resembling ganglion cells. Near them may be seen young axis cylinders, the nuclei of which bear the closest resemblance to those of the fusiform cells. The processes of these cells are filled with protoplasm, which is at first granular, afterwards becomes homogeneous, and ultimately appears to be differentiated into medulla and axis cylinders. The nuclei become paler, and the cellular membrane comes to represent the sheath of the newly-formed nerve-fibre. This method of union is of much interest, as being almost identical with the mode in which, according to the observations of Kölliker, nerve-fibres are formed in the embryo. What, it will be asked, becomes of the catgut ligature during this process? It is apparently absorbed. In eighty hours the section shows deep excavations in the thread, which increase in size during the next few days, and in about a week all traces of the catgut have disappeared.

During this stage of regeneration of the nerve it is found that its functional power undergoes a restoration closely parallel to that of its structural continuity. Just as no formation of nerve elements is to be traced when a piece of the nerve is cut out, so no restoration of function of the nerve is to be observed under the same circumstances, even after a long time. On the other hand, when the injury is such, as with a needle, that the neurilemma is not divided, functional power is regained in a very brief time. Lastly, when the nerve is completely divided and carefully sutured, it is found that in the most favourable cases functional power is restored in about seventy hours, in the case of the sciatic of the fowl, and in about ten days in the case of the vagus of the rabbit. An early restoration of function in divided nerves has been doubted by many pathologists of authority, because, in respect to man, it rests chiefly upon facts as to the early return of sensation, not of motion, in the parts supplied by the divided nerve, and the theory of a collateral path by the peripheral connection with other nerves has seemed a more probable explanation than that of a restoration of function through the injured part. It is, indeed, difficult to exclude the possibility of such an explanation in the experiments upon animals, if the recovery of voluntary power in the muscles at first paralyzed is taken as the indication of the recovery of functional power in the divided nerve. The possibility of such an explanation is excluded, however, by some of Gluck's experiments. Having divided and sutured the sciatic of a fowl, the immediate paralysis of the muscles supplied was found to have passed away at the end of four days. The sciatic was then exposed, divided again above the place of suture isolated, and laid on a glass plate, as low as the division into peritoneal and tibial nerves. Irritation, mechanical or electrical, of the nerves above the suture caused contractions in the muscles supplied by it,

which must have been due to the conduction of the stimulation through the divided portion. In some other cases evidence of conduction was not obtained until after a somewhat longer period; but at the time at which this power of functional conduction was manifested, histological observation showed that between the two ends of the nerves there was only granulation tissue, or tissue which had not yet assumed the character of nerve-fibres, and we must assume that this suffices to conduct the stimulation.

Other experiments, with a similar result, were made on the vagus. The physiological relation of the two vagi supplies an interesting means of testing the restoration of this function. As is well known, death occurs soon after section of both nerves, while division of one only produces comparatively little effect. The right vagus of a rabbit was divided and sutured with catgut. Ten days afterwards the left vagus was divided, without the appearance of any of the symptoms which result from the division of both nerves. Hence it was assumed that the function of the left had been restored. To test this the left also was divided, and always with the result of causing the death of the animal with the characteristic symptoms of paralysis of both vagi.

A very important practical question in connection with these observations is: How long after complete division can suture be practised with hope of recovery? An answer to the question is essential for the surgical application of the researches we have described, and this answer, by some observations now in progress, we are promised at a future time.—*Lancet*, June 1, 1878.

—

Tuberculosis of the Tongue.

Is there any organ or tissue of the body which is not occasionally the seat of the formation of tubercles? It is doubtful whether the careful investigation of the present generation of workers will long permit an affirmative answer to this question. The occurrence of tubercles has now been noted in structures in which it was thought, not long ago, that they were never found, and it seems probable that soon their occasional occurrence will be traced in every part. We lately noted some interesting observations of the occurrence of distinct tubercular formations in voluntary muscles, and now we have to call attention to recent facts which demonstrate that tubercular ulceration of the tongue is met with, rarely it is true, but with a distinctness which suggests that when its occurrence is generally known its rarity may be found to be less than is commonly supposed. The condition is not in itself surprising when we reflect how constantly tubercular formations are met with in other parts of the alimentary tract.

The condition was noted long ago by Portal, but has been until lately so completely overlooked that it is unmentioned in many of our systematic treatises. It is to the French that we are indebted for the observation of most of the cases, of which several have been recorded by Trélat, Féréol, Laveran, and others, and a well-marked example has just been published in *l'Union Médicale* by M. MILLARD. The characters of the affection are almost distinctive, apart from its association with pulmonary disease, which is commonly obtrusive. The patients are usually of early or late adult age. The ulcer is commonly single, but two or three may be present, and in some cases there have been a large number of excavations; in that of M. MILLARD it was estimated that there were a hundred separate ulcers. Their seat is the anterior part of the tongue, the edges, and the under surface; the upper surface being very rarely invaded. The common seat of the ulcers suggests that the occurrence of the tubercular deposit may have been determined by the local irritation of decayed teeth, just as local irritation elsewhere has a distinct influence in determining the change. The affection commences by the appearance of a minute white spot on the surface of

the tongue, over which the mucous membrane gives way, allowing the escape of a little puriform material, and thus an excavation is formed, minute at first, but rapidly increasing in size. Similar spots make their appearance around the first, and confer upon the disease its most characteristic aspect. The ulcers thus formed may remain discrete, or may coalesce. When the large ulcers have been formed, they are irregular in shape, have a yellowish, uneven base, beneath which the tissue is indurated. There is no actual tumour, although the characters of one may, as Millard remarks, be closely simulated by the muscular contraction which occurs as the consequence of the pain of the ulcers, to prevent the extension of that portion of the tongue. For these ulcers are commonly painful, often extremely so, rarely painless. They are occasionally associated with the development of similar ulcers elsewhere in the buccal cavity, especially, in several cases, in the soft palate. In one instance, recorded by Gelade, the ulcers extended from the palate to the gums of the molar teeth, and invaded the superior maxillary bone, which became excavated by a sort of soft caries.

The tubercular nature of these ulcers rests upon strong evidence. They are almost invariably associated with signs of pulmonary phthisis, frequently with actual excavation of the lung. They are unlike other ulcers, whether simple, specific, or epitheliomatous, and, in several cases in which it has been tried, anti-syphilitic treatment, iodide of potassium or mercurial inunction, has been useless, and in no case has any history of syphilis, direct or indirect, been traceable. But their nature does not rest upon the evidence of clinical association alone. The tubercular nature of the white points from which they take origin has been demonstrated by Raynaud, Koerte, and Nedopil. On microscopical examination they were found to be of similar structure to the miliary tubercles which existed elsewhere in the cases. The ulceration is the result of a rapid caseation of the tubercles which infiltrate the tissue beneath the ulcer. Although the signs of advanced phthisis have usually coexisted with such ulceration, the latter has been noticed to initiate the affection, as in a case recorded by Lailler, in which general miliary tuberculosis of the mouth was followed by rapid phthisis, and in the case in which the nature of the disease was demonstrated by Koerte. The patient of the latter was a man, aged fifty-three, previously healthy, and the affection of the tongue preceded for two months the occurrence of infiltration of the apices of the lungs.

Although the ulcers have not in any case been the immediate cause of death, they have in many instances assisted in bringing about a fatal termination by interfering with mastication and with the ingestion of food. Their treatment is thus a matter of considerable importance. In obstinacy they resemble closely the tubercular ulcerations upon other mucous membranes, and several observers have come to the conclusion that little or nothing can be done; but Bucquoy and Laboulbène have recorded cases treated successfully. Relief may be given to the pain by sedatives, especially by morphia and glycerine; by a spray of iodoform dissolved in ether, as suggested by Lailler; and by antiseptic applications, such as borax and hyposulphite of soda. It is evident that little benefit can be expected from the application of caustics, since the affection is deeply seated; the tubercular process underlies the ulcer, and cannot be influenced by astringents or caustics applied to the surface. Nitrate of silver and chromic acid have both failed. The most efficient remedy is excision. This has been performed in several cases under the impression that the disease was really epithelioma, and in others in order to get rid of ulcers which were very troublesome and interfered seriously with nutrition. In all cases the wounds have healed well, and the removal of the indurated tissue underlying the ulcer has arrested the disease.—*Lancet*, May 25, 1878.

Gurjun Balsam in Gonorrhœa.

This preparation, in place of copaïba, has been prescribed with success for gonorrhœa at some of the hospitals of Paris (*Bulletin Général de Thérapeutique*, Février 28, 1878).

The following is Vidal's formula, as used at the Hospital Saint-Louis:—

Gurjun balsam, 4 grammes (1 drachm); gum, 4 grammes (1 drachm); infusion of star anise, 40 grammes (10 drachms). To be divided into two doses, and taken immediately before meals.

Mauriac gives a larger dose: his formula at the Hospital du Midi is as follows:—

Gurjun balsam, 16 grammes (4 drachms); gum, 10 grammes (2½ drachms); syrup of gum, 30 grammes (7½ drachms); mint water, 50 grammes (12½ drachms). To be divided into three parts, and taken during the day.

M. Deval, who watched the effects of the remedy in Vidal's service (*Thèse de Paris*, 1877), recommends the former prescription, considering Mauriac's to be too powerful.

Gurjun balsam is cheaper than copaiba; it is also said to act more rapidly, and to have no disagreeable effect on the breath.—*London Medical Record*, May 15, 1878.

Direct Injections into the Bladder through the Urethra.

Injections of medicated fluids into the bladder has been much recommended; but a great drawback has been the often irritable state of the membranous portions of the urethra and the back of the bladder, and the difficulty has not been overcome by Reliquet's suggestion of a gum-elastic catheter in place of the metallic one.

Dr. BERTHOLLE (*Gazette Hebdomadaire*, Nos. 19, 20, and 21, 1877) suggests a method of injecting fluids into the bladder without the use of the catheter. If a stream of water or other fluid be introduced into the urethra, it will, if entering under sufficient pressure, gradually dilate the sphincter vesicæ, and enter the bladder. If there be spastic contraction, this will be gradually overcome by the pressure of the column of fluid. Dr. Bertholle, who was the subject of chronic inflammation of the membranous urethra, practised the method for eighteen months on himself with a satisfactory result. It is as follows: The patient sits on a carpet on the floor with his back against the wall, the thighs abducted, the knees turned out, and the feet turned in. A vessel is placed conveniently to catch any water which may escape. An irrigator with a tube is placed upon a bench near by. To the end of this tube is fastened one end of a movable connecting piece provided with a stopcock, the other end being, when occasion requires, fastened to the canula intended for insertion into the urethra. The canula is of hard India-rubber, about five inches long, and rather less than a quarter of an inch in diameter. It is well oiled, and inserted into the urethra, and the patient, holding the urethra and canula firmly with the left hand, can easily regulate the flow of the fluid by turning the stopcock. When the latter is opened, the water usually penetrates into the bladder without the patient being conscious of its entrance. So soon as he feels the desire to urinate, the stopcock is to be turned off, as the bladder is then full. The patient can now empty the bladder at once, or can retain the fluid for a short time. The water to be injected should be lukewarm, or at least not of lower temperature than the body. The best time for employing the injection is just before going to bed. A single injection will dilute the stagnant urine and deprive it of its irritating quality.

[This method of injecting the male bladder was described two years ago by Dr. Hunter McGuire, of Richmond, Va. (*Va. Med. Monthly*, July, 1876, and *Monthly Abstract*, Sept. 1878, p. 420.)—ED.]

The indications for the direct injection of water (or medicated fluids) are as follows: 1. Diseases of the bladder, and particularly chronic essential or consecutive cystitis. In the former, Bertholle considers this method capable of effecting a cure; in symptomatic cystitis it is only palliative, so long as the cause (stone, etc.) is not removed. 2. Contraction of the neck of the bladder. 3. Diseases of the prostate; the injection here acting indirectly by relieving the consecutive vesical catarrh. 4. Diseases of the urethra, in particular, urethritis of the deeper portion, where contraction of the membranous portion, and of the sphincter vesicæ, with consecutive catarrh, is present. The contraindications are: 1. Paralysis or relaxation of the bladder; 2. Hypertrophy or other diseased condition of the prostate, causing difficulty in urination; 3. Organic stricture of the urethra.—*London Med. Record*, May 15, 1878.

—

The Local Use of Solution of Quinia in Chronic Irritation of the Bladder.

Mr. J. KNOWSLEY THORNTON, Surgeon to the Samaritan Free Hospital for Women, in an article on this subject (*Lancet*, June 1, 1878) says: Some few months back I heard, through Mr. Spencer Wells, of the value which Mr. Nunn attached to the local use of quinine in chronic irritation of the bladder. I had in hospital at the time two patients whose convalescence after ovariotomy had been much retarded by this condition, which is so apt to arise from the nurse not being sufficiently careful as to the condition of her catheter. Both the cases had defied frequent washings out of the bladder with solutions of carbolic acid, etc., and both patients were feverish, passing much mucus in ammoniacal and offensive urine, with constant desire and severe dysuria.

I treated both as follows: The water was drawn off with a No. 12 gum-elastic catheter, and the bladder thoroughly washed out with tepid carbolic lotion, one to one hundred, four ounces being introduced and then withdrawn, the process being repeated till a pint had been used for each. (This had been done each day for several days, two ounces of the solution being left in the bladder without the slightest relief or improvement.) Four ounces of water were then introduced and withdrawn. Not knowing the exact strength of the solution used by Mr. Nunn, I had one made with two grains of quinine to the ounce, and a few drops of dilute sulphuric acid to dissolve it. Three ounces of this solution were introduced and allowed to remain in a few seconds; then two ounces were withdrawn, the other ounce being left in the bladder; the patient having instructions not to pass water for an hour. The first patient had some smarting and forcing, which lasted for twenty minutes; the second no inconvenience whatever. In twenty-four hours I noted as to them both: "Urine acid, much improved in general appearance; no mucus, and odour normal." Two days later I noted in their case-books, "No more trouble with urine since the acid quinine injection; urine normal."

A few weeks later another patient, nursed by the same nurse, was found in the same condition on the fifth day after ovariotomy. I at once emptied the bladder, washed it out in the same way as before, merely using warm water, and used the quinine solution. The urine contained a good deal of mucus next day, but was acid. A few days later I noted, "No further difficulty with the urine, which is normal."

Having given, after this, very strict injunctions as to the cleaning of the catheters, I have had no further opportunity of trying the quinine, but I certainly shall use it with perfect confidence in any other case of the kind which comes under my care. I think we are much indebted to Mr. Nunn for giving us so simple a method of dealing with a most troublesome complaint.

Morphia and a Tell-Tale as aids to Compression in Aneurism.

Mr. C. F. MAUNDER, Surgeon of the London Hospital, in his Lettsomian Lectures of 1875, drew attention to the value of morphia as an aid to compression, as a substitute for chloroform and its attendant risks. He illustrated its use in the case of a gentleman who "dozed, took his meals, smoked his pipe, and submitted to continuous digital compression for twenty-three hours, with scarcely a complaint; and, at the expiration of this time, expressed himself as capable of enduring treatment many hours longer." The following is another example of the value of the drug, recorded by Mr. Maunder (*British Med. Journ.*, May 25, 1878).

In February, 1877, Mr. ——, who is now forty-two years of age, was advised that he was the subject of an aneurism of the popliteal artery. He was put to bed and treated for the first ten days with a bag of shot weighing eight pounds placed over the common femoral artery. During the next month, a tourniquet was substituted, and worn during eighteen hours out of the twenty-four over the superficial femoral artery. His health now began to fail; treatment was discontinued; and he went to his business, the tumour being smaller and pulsation less marked. During the last three months, the swelling and the pulsation had both increased, associated with pain and general discomfort about the knee.

March 29, 1878. I found Mr. —— with an aneurism of the size of a large orange occupying the upper half of the popliteal region, and bulging somewhat to the inner side of it. Continuous digital compression with a weight of ten pounds was advised, aided by morphia, if necessary.

30*th*. Mr. W. R. T. Hawkins and Mr. Albert E. Jones of the London Hospital commenced the compression treatment at 11.45 A. M., the common femoral being the artery selected; and they maintained complete occlusion of this vessel for the space of half an hour alternately. At 4 P. M. the patient suddenly complained of severe pain (distal occlusion?), commencing in the calf of the leg, and running up along the aneurism and femoral artery. A quarter of a grain of morphia was now hypodermically injected, and relief afforded. From this time, when the gentleman compressing was relieved by his colleague, and the pressure for the moment somewhat relaxed, the force of the pulsation in the aneurism was observed to be gradually diminishing. At 8 P. M. an assistant was recruited, in order to help in the continuation of the compression through the night.

31*st*. At 2 A. M. another paroxysm of pain occurred, after which pulsation was scarcely, if at all, perceptible; and a firm swelling occupied the seat of the aneurism, the disease being practically cured. At 10 A. M. no pulsation could either be felt or seen. One or two arteries could be detected meandering the knee. Compression was continued during the day as a precautionary measure. Throughout the whole time (thirty hours), the patient lay on his back, with the thigh rotated outwards, and the leg flexed at a right angle on this. An indicator (which consisted of a penholder with a piece of paper like a flag placed between the nibs, and which marked the presence or absence of pulsation in the aneurism) was lodged like a finger-post in the flexure of the knee, and acted like a tell-tale to the compressor. Mr. —— took food at intervals, and was cheerful and chatty, except when asleep. An injection of morphia was resorted to four times.

The skin over the seat of compression, which had been protected by the occasional application of French chalk, was slightly reddened only, and was the source of the least possible discomfort to the patient, who said he could have borne the treatment many hours longer.

Aneurism of Subclavian and Axillary Artery treated by Rest and Restricted Diet.

At a late meeting of the Clinical Society of London (*Lancet*, March 16, 1878), Mr. HULKE read the notes of such a case. The patient, a French-polisher, aged thirty-six, but much older in appearance, addicted to drink, after suffering from pains in the left shoulder and arm, supposed to be rheumatic, during two months, became aware of a swelling at the root of his neck on the left side, for which he went into King's College Hospital. Dissatisfied with what was there done for him, he left that hospital, and five months after the beginning of his illness entered the Middlesex Hospital, 28th March, 1877. At this time he had a large aneurismal tumour filling the axilla and implicating also the third, second, and presumably, to some extent, also the first part of the left subclavian artery; and he suffered great pain down the arm and over the shoulder-blade. He was kept in bed, and enjoined to keep perfectly still—not even to sit up or to move off the bed for any purpose, and he was put on a very limited non-stimulating diet. This was followed by rapid mitigation of the pain, by decrease of the aneurism and its obstruction by clot. He was discharged for disorderly conduct in June, at which time the axillary portion of the sac had shrunken to the size of an acorn, and was quite impervious, and the cervical part was very small, and felt very firm. It was thought that a slight pulsation of this part might be communicated. He afterwards entered Charing-cross Hospital, where, Mr. Hulke learned, doubts were entertained of the nature of the affection. This Mr. Hulke took to be confirmatory of the permanence of the consolidation and occurrence of a cure. The encouragement the case afforded for the trial of a modified Valsalva's method in aneurism, where the ordinary direct surgical methods were not applicable, induced Mr. Hulke to submit the case to the consideration of the Clinical Society.

—

Notes on a Case of Multiple Exostoses.

The condition of several exostoses developed in the same individual is a sufficiently rare occurrence to render worthy of report the following remarkable case recorded by Mr. THOMAS JONES, Surgeon to the Children's Hospital, Manchester (*British Med. Journal*, May 18, 1878).

Wm. S., aged 9, a native of Warrington, was admitted into the Children's Hospital on July 3, 1877. The immediate cause of the parents seeking advice was a large tumour springing from the posterior surface of the right leg about two inches below the knee. This mass, of irregular shape and firm consistence, was found to spring from both bones. The skin over the tumour was of normal colour and freely movable. A further examination of the boy resulted in the detection of a number of bony outgrowths, of various sizes and shapes, in different parts of the body. They were connected with the following bones: the right clavicle, one at each end; the upper extremities of both humeri; the carpal ends of the right and left radii; the lower ends of both ulnæ; the second phalanges of the ring and middle fingers of the right hand; the outer side of the second phalanx of the middle finger on the left hand; the dorsal surface of the middle phalanx of the left ring finger; the lower border of the same phalanx; the lower ends of both femora; the posterior surface of the right femur; the upper ends of both tibiæ; the outer surface of the left fibula; and the dorsal surface of the middle phalanx of the left second toe.

Besides these nutgrowths, the upper end of the left fibula and the lower end of the right radius are very materially increased in thickness. I would also mention a deformity of the left ulna which the boy presents. The lower third of this bone

appears to be quite in a rudimentary state, and to join the radius, thereby destroying the power of pronation and supination in the left forearm.

The progressive increase in the size of the osseous tumour situated on the right lower extremity rendered its removal advisable. The operation by a single straight incision in the long axis of the limb was performed on July 18. The fibular attachment of the tumour was much broader and firmer than the tibial. On section, it was discovered that the greater part of the mass was made up of cancellated bone-tissue, and that it was enveloped by a thin layer of glistening cartilage.

The case I have briefly related, while agreeing in many respects with those already published, differs in some particulars. It coincides with the case referred to in Paget's *Surgical Pathology*, and with Dr. Poore's (*Lancet*, Nov. 29, 1873), in the tolerably symmetrical arrangement of the growths, and in those on the right side being larger than those on the left; but, unlike these, careful inquiry has failed to establish the presence of any osseous deformities in other members of the family.

I am unable to offer any theory as to the causation of these exostoses. I think, however, I may say with confidence that they were not the result of conditions which are generally looked upon as causes—such as rickets, syphilis, and struma. There is an entire absence of the usual indications of either struma or syphilis, and the conformation of the osseous system in general renders the probability of rickets having existed very unlikely.

The local hypertrophy of the right radius and left fibula appears to lend some countenance to the observation made by Sir James Paget, that these exostoses are to be regarded as closely related to osseous malformations by excessive development.

In conclusion, I would submit that the formation of a number of bony tumours in connection with the osseous system should be looked upon as evidence of a constitutional ossific dyscrasia.

—

Subcutaneous Extra-Articular Osteotomy for Genu Valgum.

The operation to which this name has been given was performed for the first time on Friday last, May 17th, at the East London Hospital for Children, by Mr. REEVES, in the presence of several foreign surgeons. Its object, which was thoroughly obtained, is to improve on the method of operating on cases of knock-knee devised and executed by Dr. A. Ogston, of Aberdeen; and our object in calling attention to it at this early stage is to induce surgeons to give it that trial and preference which a less severe and equally efficient operation must claim. We give the substance of Mr. Reeves's observations before the operation. In Dr. Ogston's operation, the knee-joint is entered by the tenotome or scalpel, a fine saw is introduced along the knife-track, and the internal condyle is sawn off. This proceeding has now been done about thirty times *antiseptically;* and the results have been, on the whole, very encouraging; yet we have heard of a few cases in which synovitis, followed by severe constitutional disturbance and ending in ankylosis, has occurred. It was to avoid, if possible, these unnecessary complications, that Mr. Reeves thought of the extra-articular method. A scalpel, previously dipped in carbolized oil, was introduced obliquely just above the inner tuberosity, and the soft parts and periosteum were divided; by the side of the knife, a chisel, also dipped in carbolized oil, was introduced, and the internal condyle separated *as far as the cartilage only;* and, the chisel being then used as a lever, the condyle was pried inwards, till it was felt to move moderately freely. The limb was then forcibly straightened by Mr. Cæsar and Mr. Parker; a pad of lint dipped in carbolized oil was put over the small aperture,

and a long splint, interrupted at the knee, and with a cross-piece at the foot to keep it steady, was adjusted to the straightened limb. As the condyle differs in shape and depth, it is of course necessary to be accurate in chiselling; and, to guide him, Mr. Reeves previously marked out with ink on the skin not only the contour of the condyle, but also the direction of the chisel-cut. The greatest depth of the condyle was marked on the chisel, allowance being made for the thickness of the cartilage and of the soft parts; the chisel was then driven home till the mark on it nearly reached the skin. The condyle having been first penetrated in its greatest depth, the chisel was partially withdrawn; its direction was altered, first forwards, then backwards; and, with a few oblique touches, due allowance being made for the varying depths, the condyle was felt to be sufficiently loose, when the instrument was withdrawn and the knee straightened. The joint was not entered; no synovia escaped; and the feeling of resistance to the chisel was not at any time overcome. Had this been the case, the joint must have been opened. It might, *à priori*, be thought that the uncut cartilage, with perhaps some slight uncut bony bridges, would either interfere with the reduction of the deformity, or would only yield after being broken. The result so far, in this case, does not confirm these objections, if they be serious objections. Experiment and experience must determine the matter in the case of adults; but in children, in whom the condyles are not completely ossified, and what bone there is in the young cancellous tissue is soft and pliable, these objections do not hold. But, even if the cartilage were to fracture, or even if the joint were entered, say purposely, with the chisel, the proceeding would not be so severe as if done with a saw. Another modification in this operation is noteworthy. It has been said that the internal condyle was separated. It is more correct to say that the greater part of it was almost separated; that is to say, that the chisel-cut did not extend to the intercondylar groove, but only to its inner side. The aim of this is to preserve some part of the inner condyle, which may grow, and thus obviate any possible future *genu extrorsum* which may be the consequence of the increased growth of the external condyle. All these operations, which may be termed rapid as contradistinguished from the older methods of splinting and tenotomy, when necessary, are too young to admit of any dogmatic statements about them; but in the mean time we should adopt that method which is effectual and least risky. Delore's, Ogston's, Max Schede's, Annandale's, and Macewen's, and the one just described, have all the same object with regard to this deformity; but the methods of executing it differ. One, by *brisement forcé*, separates the upper tibial epiphysis; another removes a wedge from the upper part of the tibia; another attacks the femur; and yet another removes a wedge from the internal condyle. Ogston's method and this agree in principle, but differ in execution and severity. The advantages of the extra-articular method seem to be, greater rapidity of execution, rendering it more strictly subcutaneous; much less damage to the bone, cartilage, and soft parts; no interference with the knee-joint; and, as the condyle is not completely separated, there is less likelihood of subsequent non-union and necrosis. Again, the resulting joint-surface will be more regular; and, by leaving a part of the condyle, the probability of a genu extrorsum is much diminished. Then there should be no difficulty with the case. As soon as the condyle has become firmly attached in its new position, the stiffness will only be due to having kept the knee fixed for some weeks, say five, and not to ankylosis, which has to be overcome by frequent passive motions under anæsthetics. In the present case it was endeavoured to make the section on the distal side of the line of junction of the epiphysal cartilage. This is considered important with reference to the future growth of the inner side of the femur. The operation was not antiseptic in the Listerian sense; it was carried out in the

same way as nineteen other osteotomies (five femora, ten tibiæ, and four fibulæ) by the same operator; and, as in these cases everything progressed as could be wished, no additional precaution was deemed necessary. Even this operation of minimum severity Mr. Reeves would at present confine to those cases of overgrowth of the internal condyle in which the older methods are not applicable or have failed; but, as soon as experience shall have taught that there is nothing to counterbalance its many advantages, he would not hesitate to recommend and adopt it as the first means in the more severe cases of this deformity. Expensive and somewhat cumbrous apparatus become necessary after tenotomy, etc.; and they will not be needed in the case of surgically displaced condyle, the cause of the deformity—*i. e.*, the overgrown condyle—being put in proper position. It should, in conclusion, be stated that there has been no rise in pulse or temperature, and only such local pain as might naturally be expected.—*British Med. Journal*, May 25, 1878.

—

Disarticulation at the Elbow-joint.

Dr. VON LANGENBECK showed, at the late Congress of the Society of German Surgeons, a case in which this operation had been performed. Although the operation was in much discredit, he had for several years performed it in all cases in which it was possible. He made an anterior flap. He was very careful to endeavour to procure union by the first intention, and for this certain precautions were necessary. The skin about the elbow was so retractile that, in order to obtain sufficient covering for the stump, the incision must be made at least two-fifths of an inch below the epicondyles. The flap thus formed consisted only of skin and fascia. The separation of the ulna with the olecranon from the fossa of the humerus was very easy, if, after pushing the flap up and opening the joint, the knife were carried obliquely upwards so as to divide the lateral ligaments. The arm being then extended, the olecranon was exposed. The operation was completed by dividing the tendon of the triceps extensor muscle. The patient shown had been operated on more than a month previously for sarcoma of the ulna, and was doing well.—*Lond. Med. Record*, May 15, 1878.

—

Resection of the Knee-Joint.

Dr. von LANGENBECK, at the late Congress of the Society of German Surgeons, showed a girl aged three years, on whom he had operated a year previously, by making a semilunar incision on the inner side, extirpating the capsule of the joint with the bursa of the quadriceps, and sawing off the articular surface of the patella. The growth of the limb had not decreased, as about four-tenths of an inch had been removed, and there was shortening to the extent of about one-fifth of an inch.

Dr. PETERSEN (Kiel) had found in a case in which he performed resection of the knee three years ago, with retention of the epiphysal cartilage, that there was increase in length to the extent of more than an inch.

Dr. RIEDINGER (Würzburg) had preserved the patella in one case, freshening its surface and those of the femur and tibia, and fastening the bones together.

Dr. KÖNIG (Gottingen) had, in the course of eight or nine years, met with no case of shortening after preservation of the epiphysal cartilage, although he had observed flexion of the limb, depending apparently on bony, but in reality on cartilaginous ankylosis. He advised that the surgeon should endeavour to obtain a stiff and not a movable joint, and that the incision should be transverse. Dr. von Langenbeck preferred the inner semilunar incision, by which he had been enabled to preserve the muscular structures and the mobility of the joint, and

which also facilitated the extirpation of the pouch of the synovial membrane. The latter object was fulfilled with more difficulty by transverse division of the patella, as recommended by Volkmann. His ultimate object was always to obtain a movable joint, as ankylosis interfered with the growth in length of the bone.

Dr. HÜTER was in favour of the anterior flap. The whole should be within view, so that not only might the articular cartilages be removed, but carious foci in the tibia—frequently the starting point of the whole disease—be discovered and scooped out. With this he combined drainage of the tibia, after opening its anterior surface with an American drill. Of five recent cases, he had obtained good motion in three; he removed the patella, but cut the ligamentum patellæ obliquely, so as to favour its union by first intention, and preserve the muscular apparatus.

Dr. KOCHER (Bern) had performed resection of the knee-joint twenty-five times with three deaths. He had occasionally met with shortening, in spite of the preservation of the epiphysal cartilages. He believed, with Dr. Hüter, that the antiseptic method was more favourable than the open treatment to obtaining movable joints. He had had deaths with the antiseptic method, but none with the open treatment. Dr. von Langenbeck always used extension when the dressing was applied, so as to leave an interval between the sawn surfaces of bone; the wound was closed by suture as far as the part where the drainage-tube was inserted.

Dr. SCHEDE had brought the sawn surfaces of bone together, partly by catgut, partly by silver wire, but had never obtained bony ankylosis.

Dr. HÜTER regarded a certain degree of mobility in the new joint as the best means of obviating an angular position of the limb. Oblique division of the ligamentum patellæ was followed by firm union, with the help of which the quadriceps extensor acted on the leg.

Dr. KÖNIG believed that mobility had nothing to do with the adhesion of the ligamentum patellæ. He followed antiseptic principles strictly in the after-treatment.—*London Med. Record*, May 15, 1878.

Midwifery and Gynæcology.

Cæsarean Section and Removal of Uterus.

Prof. SPATH related the following case to the Vienna Medical Society (*Allg. Wien. Med. Zeit.*, January 22):—A woman, aged forty, was admitted into his clinic pregnant with her tenth child. She had borne five living children, had aborted three times, and in her last labour the child's head was perforated. For the last five years she had suffered from osteomalacia. She was pale and considerably emaciated, suffered from a considerable bronchial catarrh, and there was much albuminuria, together with œdema of the lower extremities. On examination it was found that so great a degree of contraction of the pelvis existed that the Cæsarean section was absolutely indicated. Endeavours were made, without much success, to increase her strength while she was kept in a separate room awaiting the occurrence of pains.

After mature reflection, guided by former experience, Prof. Spath resolved that he would perform the Cæsarean operation under Lister's method; and in

the case of the uterus not contracting completely, and thus endangering the occurrence of subsequent hemorrhage, he would proceed to its entire removal. Although every case of Cæsarean section performed in the Vienna Lying-in Hospital during the last century had terminated fatally either from septicæmia, peritonitis, or hemorrhage, yet, encouraged by the success of Péan and Porro in their cases of removal of the uterus, he hoped by the aid of Lister's method, and the prompt extirpation of the uterus if necessary, to secure a better issue in this case. Accordingly, on June 2, 1876, labour pains having become active, he performed the Cæsarean operation, and removed a living child without any difficulty. An injection of ergotin had been previously made in order to secure energetic uterine contraction; but, as this did not take place, and as considerable hemorrhage occurred, which iced water failed to arrest, the extirpation of the uterus was resolved on. The uterus having been secured in the neighbourhood of its neck by the chain of the écraseur, and raised up from the wound, Prof. Spath separated its body from the neck by some strokes with the scalpel. The cavity of the abdomen was carefully cleansed, and the wound was united, securing the pedicle at its lower angle. The whole operation scarcely occupied an hour. The patient soon came to, and complained but little of pain. The subsequent course of the case was most favourable, the highest temperature being 38.6° C. The albuminuria and œdema disappeared. The patient's strength was kept up by champagne, and the catarrh, which had been very troublesome, diminished. On the tenth day the end of the pedicle fell off; and on the thirty-eighth day after the operation the patient was able to stand, and eleven days afterwards to walk in the garden. On September 18 she was discharged cured. In October the small fistula which remained after the union of the rest of the wound had completely healed, and the patient was rid of all her suffering.

Prof. Spath exhibited the patient to the Society, then some eighteen months after the operation, in the enjoyment of complete health, the pains caused heretofore by the osteomalacia having disappeared. On examination, the freely movable cervix could be felt high up, but no exudation was perceptible beyond. Prof. Spath believes that this procedure will be found to deserve adoption in preference to simple Cæsarean section. The wound in the uterus is definitively smaller, and can be submitted to external treatment, and uterine hemorrhage and endometritis become impossible (nor can the woman, we may add, become again pregnant, as sometimes happens notwithstanding the danger that has been run in Cæsarean section).—*Med. Times and Gaz.*, April 20, 1878.

Cæsarean Section with Extirpation of the Uterus.

In the *Centralblatt für Gynäkologie*, March 2, 1878, Dr. MÜLLER, of Bern, relates the following case: E. R., aged 37, was delivered naturally of her first child at the age of 22. Since then she had given birth normally to four children. Symptoms of osteomalacia appeared, however, in her third pregnancy. Pregnant for the sixth time, she was found to present the beak-shaped pubis, heart-shaped pelvic outlet, diminished stature, and lordosis, characteristic of osteomalacia. Under chloroform, it was found that the pelvic bones could not be opened up. The belly was remarkably pendulous. The fœtal heart could be heard. On February 1 the waters broke, but labour-pains did not set in. On February 2 there were feeble labour-pains. On February 3, during several hours, there were strong pains. On February 4 she had strong pains; the uterus was painful; the fœtal heart was no longer to be heard. In consequence of the rise in temperature, quickened pulse, tympanites, and other signs, Dr. Müller arrived at the conclusion that there was inflammation of the womb with death of the fœtus.

At eight P. M., under complete chloroform-narcosis and carbolic spray, an incision was made through the abdominal wall between the umbilicus and symphysis. The uterus, exposed, was twisted on its long axis, so that the left horn emerged from the abdominal wound and the body of the uterus followed. A ligature was then applied round the cervix, and the uterus opened outside the abdomen. The fœtus was delivered, and the placenta was removed without any bleeding from the placental site. The fœtus was dead, and the uterus contained some offensive gas and purulent fetid liquid. The uterus was then amputated above the ligature. There was no bleeding, and no fluid escaped into the abdomen. The pedicle was sewn to the sides of the abdominal wound, which was closed as in ovariotomy. A drainage-tube was left in between the pedicle and the last abdominal suture. On the second day, the pedicle disappeared into the abdomen. The ligature came away on the tenth day. The temperature and pulse fell immediately after the operation. On the day following the pulse was 84. At the time of reporting the case, seventeen days after the operation, Dr. Müller considered the patient out of all danger, and convalescent. He remarks that, had he not extirpated the uterus, the patient would have succumbed to pyæmia, symptoms of which were present at the operation. The rapid fall of temperature after the operation testified to the correctness of the treatment. He also lays stress on the good result of ligaturing the cervix, and thereby securing a bloodless operation.—*London Medical Record*, May 15, 1878.

—

Milk Fever.

In an elaborate paper read before the Dublin Obstetrical Society (*Dublin Journ. of Med. Sci.*, May, 1878) Mr. ARTHUR V. MACAN maintains that: 1. There is no rise in temperature necessarily accompanying the first secretion of the milk.

2. Pain and distension of the breasts may cause fever; but this fever differs greatly from that generally described as milk fever. It comes on somewhat later and lasts much longer; for, while milk fever is said usually to terminate in from 8 to 24 hours, this fever, in 65 per cent. of the cases, lasts more than 24 hours, and does not, I think, so frequently terminate in profuse sweating.

3. The pulse in these cases is often much slower than the temperature would seem to warrant.

4. In cases of fever, during the puerperal state, the presence of full breasts is not sufficient justification for at once diagnosing the case as one of milk fever.

—

Failure of Milk Diet in the Albuminuria of Pregnancy.

Dr. N. CHARLES, of Liege, relates (*Archives de Tocologie*, March, 1878) a case of albuminuria during pregnancy, in which a strict milk diet entirely failed to effect any benefit, and which resulted in eclampsia and ended fatally, in spite of all treatment. The patient was twenty-eight years old, and pregnant for the second time. Her first pregnancy had been cut short by eclamptic convulsions, which soon led to the expulsion of a stillborn fœtus of seven months. At the sixth month of the second pregnancy traces of albumen were discovered in the urine, but the general health was excellent, and there was no œdema. Iron was administered, and the patient ordered to take one litre of milk daily in addition to ordinary diet. A fortnight later the proportion of albumen had increased; gallic acid was then prescribed, with a purgative every other day and two litres of milk daily. Notwithstanding this treatment, the proportion of albumen continued to increase, the legs became œdematous, and there was occasional disturbance of sight. Exclusive milk diet and daily purgatives were now ordered. The question of induction of labour was considered, but as the general condition was good and the œdema did

not further increase it was decided to wait, although on November 7th, 1876, the urine contained half its bulk of albumen.

Two days later, on the evening of the 9th, the patient was seized with intense gastralgia and bilious vomiting, without any other symptoms. A draught containing chloral and morphia was administered, but was partially rejected, and did not relieve the pain. At 4.30 A. M. an eclamptic convulsion occurred, followed within half an hour by a second. It was said that during the gastralgic pain the patient had felt convulsive movements in the uterus. She was now found unconscious, and the fœtal heart could no longer be heard. A third convulsion followed at 5.30. The patient was then bled to eight ounces and the legs were scarified, giving exit to a large quantity of serum. Soon after, 0.01 grm. of hydrochlorate of morphia was injected subcutaneously, and a purgative administered. Very little of this could be taken by the mouth, and the rest was afterwards given as an enema. Chloroform was also given by inhalation whenever a convulsion appeared to be threatened. The fifth fit occurred at seven o'clock, and the sixth at nine. Meanwhile two more subcutaneous injections of morphia had been given, and the administration was now commenced of chloral and bromide of potassium by enema every quarter of an hour. By this time the os was dilated to the size of a two-franc piece. At eleven o'clock the temperature was 37° C. The os was dilated to the size of a two-franc piece, and at this time an India-rubber dilator was inserted and the morphia injection repeated for the fourth time. By noon the os was dilated, and the head had descended into the cavity of the pelvis. Short forceps were applied, and a stillborn female child, 42 cm. long, was extracted. The urine, withdrawn at this time by catheter, was tinged with blood, had a specific gravity 1028, and became almost solid with heat or nitric acid.

The patient remained in the most profound coma, and fits recurred at 1, at 3, at 4.30, at 6, and at 8 P. M. At 4.30 P. M. the temperature was 38°.3 C., pulse 80; at 8 P. M. the temperature was 39°.9 C., pulse 110; and at this time loud bronchial and tracheal râles had commenced. On the morning of the 11th there was apparent improvement; the râles had diminished, and the temperature fallen to 39°.4 C., but the pulse was 120 and small. Two enemata were given, containing each two drops of croton oil, but only one slight motion was procured. In the evening the temperature had fallen to 38°.9 C., but the pulse was 125 and very small; râles had again increased. On the morning of the 12th the temperature was 38°.0 C., pulse 130. Towards noon the patient died, without having for a moment recovered consciousness.

The author remarks upon the total failure in this case of the prophylactic treatment, with regard to which such high hopes had been raised by M. Tarnier. He notes that the kidneys must have retained, if not an actually diseased condition, at any rate a very decided morbid susceptibility ever since the affection which led to the clampsia in the first pregnancy. He points out also that the temperature did not follow in this case the law laid down by Bourneville, who concluded that it always became elevated in eclampsia, and in fatal cases rose progressively to an excessively high point. In this instance, after several fits, the temperature was normal. At a later period it rose considerably, but again descended before death.—*Obstetrical Journal of Great Britain*, June, 1878.

—

Puerperal Insanity.

The following statistics and observations are quoted from a recent work by Dr. RIPPING, in a review published in the *Irrenfreund* (1878, No. 2).

Of 780 female patients admitted into the asylum at Siegburg during the four years 1872–5, 168 suffered from puerperal psychoses in the widest sense of the

term, *i. e.*, including the insanity of pregnancy and of lactation. This gives a percentage of 21.6, whereas that observed in eight other asylums varies between 7 and 16.8. The author attributes this fact partly to the greater frequency with which these patients are now taken to asylums instead of being treated at home, partly to the increasing accuracy of statistics, and partly to the faulty physical development of the women, especially those belonging to the manufacturing classes in the neighbourhood of Düsseldorf.

The 168 cases are divided as follows:—

Insanity of pregnancy	32 = 19 per cent..
Puerperal insanity proper	89 = 53 "
Insanity of lactation	47 = 28 "

In accordance with previous observations, melancholia was found to be the most frequent form of the insanity at its commencement; it occurred in 63.6 per cent. of all the cases; mania in 34.5. During the period of pregnancy, melancholia was still more common; it occurred in 84.4 per cent. of the cases; this form of psychosis was also seen in 68 per cent. of the cases of insanity due to lactation.

The author describes a number of cases in which two forms of insanity were combined, or rather followed one another; these he divides into four groups. 1. Melancholia followed by mania; twelve cases were observed; the two forms of psychosis were quite distinct, and lasted each about the same time. 2. Melancholia followed by delusional insanity (*Wahnsinn*); the latter does not succeed the former as a secondary form of insanity, but as a separate and independent affection. 3. Mania followed by delusional insanity, in which the delusions of persecutions, etc., at first occasionally observed during the maniacal excitement, gradually get the upper hand, and under the influence of hallucination, become permanent. 4. Mania with subsequent melancholia; this is simply the reverse of the first group.

The author quotes his statistics, to show that the proportion of cases with hereditary predisposition differs so slightly from those without it, that it cannot be considered as having much to do with the causation of insanity in these cases.

Patients aged from 30 to 35 seem most prone to melancholia, while younger women are more frequently attacked by mania.

Prognosis is more favourable in puerperal cases than in all cases of insanity in women taken together; but the author's figures do not show so high a proportion of recoveries as has usually been given. He attributes this to a more strict distinction between cases discharged *recovered* and those only *improved*, than used to be the case. Of the patients suffering from mania, 62 per cent. and 33.6 per cent. of those with melancholia, recovered. The combined forms afford the least favourable prognosis; of the cases described above under the second group, not one recovered. Heredity does not appear to exercise any special influence on the prognosis. Figures show that the earlier the patients are brought under treatment, the greater is the percentage of recoveries. Subsequent attacks of insanity are always more favourable as regards prognosis than primary ones. The average duration of the attacks in the patients who recovered was—for melancholia ten months, and for mania seven months.

Insanity of Pregnancy.—The author finds that insanity is more common in the latter than in the earlier months of pregnancy; in all the cases observed by him the patient's power of resistance had been diminished by hereditary tendency, previous attacks, disturbances of circulation or of the emotions. Illegitimate pregnancy is a very frequent cause of insanity; hereditary predisposition appears to have much more influence at this time, than in the puerperal period

or during lactation. The liability to insanity seems to diminish in each successive pregnancy. Of the cases of melancholia under this head, 58.5 per cent. only were pure melancholia, the remainder consisted of the combined forms commencing with melancholia. In subsequent relapses, the form of insanity which existed in the original attack is never repeated. The author confirms the statements of Leidesdorf and Holm as to the prognosis being very unfavourable in the psychoses of pregnancy; it is especially bad (1) when the attack comes on in the earlier months of pregnancy, (2) when there is hereditary predisposition, and (3) after 30 years of age. The percentage of deaths to cases was as high as 12.5.

Insanity of Puerperal Period.—The attack commences within a fortnight after delivery, and usually in the second half of the first week. Hereditary predisposition tends to bring on the attack earlier than would otherwise be the case; 29.2 of the cases occurred after the first labour. The author believes that complication, such as hemorrhage, parametritis, etc., occurring during or after labour, are frequent causes of insanity; also grief at the death of the child. The pure forms of melancholia and mania are much more common at this time than the combined. Melancholia is most frequent after 30 years of age, also when the attack commences within the first few days after delivery. The percentage of recoveries was—of all cases, 46.3; of the cases of pure melancholia, 40.6; of mania, 54.5. Youth, the early outbreak of the disease after delivery, and timely removal to an asylum, are all favourable elements in the prognosis. The average duration of the attack in cases which recovered was eight months, against nine months in the insanity of pregnancy. The psychoses after abortion were most frequent in the second or third month of pregnancy; they generally occurred after free and persistent hemorrhage in patients who were weakened by frequent pregnancies and enforced rest. The form of insanity and the prognosis are similar to those of the puerperal cases, but the great prevalence of hallucinations of sight, and the occurrence of local muscular spasms in the limbs without loss of consciousness, are noticeable peculiarities. The average duration of the cases which recovered was only five months, owing to the rapid disappearance of the anæmia.

Insanity of Lactation.—This most commonly commences in the second half of the second month after delivery or later, in patients whose powers have been gradually weakened by pregnancy, labour, puerperal troubles, and lactation. A rapid succession of labours, or prolonged rest, with affections of the generative system, predispose strongly to the attacks of insanity. Melancholia is by far the most common form of psychosis at this time. Neither age nor heredity seemed to play any important part in the etiology, but it was noted that the earlier the attacks commenced the more frequently were they in the form of melancholia. The prognosis is not so favourable as under the other heads, but fatal cases are rare. The tendency of the disease to pass into chronic delusional insanity, and the frequency of hallucinations of hearing, are very marked. The duration in cases of recovery averaged 9.5 months.—*London Medical Record*, May 15, 1878.

Treatment of Amenorrhœa.

Prof. COURTY employs (*Union Méd.*, Feb. 19) a pill composed of powdered rue, savin, and ergot, of each five centigrammes, and aloes from 2–5 centigrammes. Of these thirty are ordered, and three are taken the first day, six the second day, and nine the third day, always in three doses. They are suited for cases of idiopathic amenorrhœa, without great reaction on the economy,

and when there is reason to suppose that the suppression of the menses is due either to an insufficient determination towards the genital organs or to a difficulty of discharge due to inertia of the uterus. In order to encourage the fluxion towards the genital organs, Dr. Courty orders, before beginning the pills, foot baths, sitz baths, and fumigations. He also applies leeches to the labia during the three days the pills are being taken. The pills generally induce colicky pains and often a little diarrhœa.—*Practitioner*, May, 1878.

—

Effusion of Blood into the Peritoneal Cavity.

At a late meeting of the Obstetrical Society of London (*Med. Examiner*, May 9, 1878) Dr. ROBERT BARNES showed specimens from two cases, illustrative of two different forms of blood effusion into the peritoneum and pelvis. The first case was that of a woman, æt. 40, who had borne children, and was said to have ceased menstruating eight weeks before her illness. This began on the evening of April 20th, after a fatiguing journey, with a sickening pain in the left inguinal region, which continued till the next morning. It was then found that the os uteri was closed, the uterus was movable, and there was no great tenderness in the left inguinal region, the seat of the pain. On the afternoon of the next day she suddenly became much worse, collapse set in, and she shortly sank and died. At the post-mortem examination on opening the abdomen the intestines, as high as the umbilicus, were found covered with blood, four pounds of which, in the form of clot and fluid, were removed from the peritoneal cavity, almost as much being left behind The seat of the hemorrhage was found to be the sac of a tubal fœtation, which had ruptured spontaneously. The sac was situated on the left Fallopian tube, not far from the angle of the uterus. The case was of interest, as showing how large an amount of blood could be poured out from a small space.

The second case was that of a patient in St. George's Hospital, who, having been admitted for some other complaint was found to be suffering from retroversion of the uterus. There was considerable distress, and on vaginal examination the body of the uterus, which was greatly enlarged, was found imprisoned under the promontory of the sacrum. The reduction was made without much difficulty, and a Hodge's pessary was put in. A few days later she suddenly became much worse, and during an effort of expulsion the pessary was forced out; this was followed by great distress, and the patient died in a state of collapse. On post-mortem examination the uterus was found much bent back and enlarged. The parts about Douglas's pouch inclosed an enormous quantity of blood, part of which was evidently of recent origin, and part of long standing. Blood was effused widely into the peritoneum; the artificial cavity formed by the retroverted uterus was filled with blood and blood-clot, and lined with a firm fibrinous layer. Both the Fallopian tubes were widened in their middle third, while the right tube bore at its end a blood-clot the size of a Tangerine orange. In this case the retroversion had caused backward distension, and the blood, being unable to escape from the uterine cavity, had passed down and distended the Fallopian tubes. This was one of the sources of retro-uterine hæmatocele, and in connection with it he might mention a case that had occurred some years ago in the London Hospital. Here a solution of perchloride of iron was injected into a retroverted uterus, was forced along the Fallopian tubes by the uterine contraction, and escaping into the abdominal cavity set up fatal inflammation of the peritoneum. The fact was that the blood, when injected into the uterine cavity, acted as a foreign body, and excited contraction, and if it could not escape by the natural outlet it was forced along the Fallopian tubes. Hence one great reason for reducing retroflexions of the uterus.

Dr. JOHN WILLIAMS said that the second specimen illustrated an important point in the natural history of retroflexion, and that was that in this condition the reflux of blood was prevented by the pressure of the fibroid bands of the retro-uterine ligaments. This fact accounted for the great enlargement of the uterus in retroflexion as compared with anteflexion. Dr. HAYES related a case which he thought contrasted well with the first one brought forward by Dr. Barnes. The patient, who applied at King's College Hospital on Saturday last, said she had had a miscarriage six to eight weeks previously. She had a very rapid pulse, 140–150, and a temperature of 102°. The abdomen was distended and tender, and the patient was almost in a state of collapse. She thought she was six weeks pregnant when she miscarried. On vaginal examination the uterus was found fixed, and a large mass occupied the posterior cul-de-sac. She died the same night. The post-mortem examination disclosed general peritonitis in its first stage, together with the effusion of a large quantity of sanguineous fluid. The top of the uterus was covered by a large clot of blood, and Douglas's space was filled with a perfectly round and firm coagulum of considerable size, encircled by a dense layer of membrane. On removal of the uterus and its appendages, the sac of an extra-uterine fœtation was found in connection with the left Fallopian tube, while a *corpus luteum* was found torn and partially extruded from its nest. There was evidence of a decidual membrane occupying the uterus, which organ was about as large as at the third or fourth week of utero-gestation. The case was interesting as being one in which the rupture of an extra-uterine fœtation had not been attended as usual with sudden death. Dr. WILTSHIRE asked whether in Dr. Barnes's cases the effused blood had spread up along the spinal column. He asked this question because he saw reason to maintain that when hemorrhage occurred free into the abdominal cavity the blood obeyed the laws of hydrostatics, tending to gravitate along the spinal column and not accumulating especially in the pelvis. The question, however, of more immediate clinical interest was the treatment of these cases of extra-uterine fœtation. During the discussion on Mr. Jessop's case the point had been raised as to whether it was justifiable on the rupture of the sac to open the abdomen and ligature the bleeding point. The second case he thought was interesting as showing post-mortem retroflexion of the uterus, a condition the very existence of which had been denied by some eminent pathologists. Dr. HEYWOOD SMITH briefly alluded to a case in which pelvic hæmatocele had suddenly occurred, and the patient had passed a decidual membrane five days afterwards. He had no doubt at the time that this was a case of tubal pregnancy, and the question arose as to whether the hæmatocele should be punctured. This was decided in the negative, and after an interval of three or four years the effused mass was found to have been entirely absorbed, while the uterus had become perfectly movable.

—

Spontaneous Expulsion of a Large Fibroid Tumour.

In a paper read before the Société de Médicine de Lyon, Dr. YGOVIN relates a case of an enormous intra-uterine fibroid which ended fortunately after spontaneous expulsion, the patient having been long in great peril of life It occurred in a single lady forty-three years old. Menses commenced at the age of eleven, and were normal until 1867, when she began to suffer from dysmenorrhœa, and after this time menstruation gradually became irregular and profuse. In July, 1871, the author was called in on account of sudden and severe flooding, which was checked by ergot and cold applications. This recurred from time to time, and in January, 1873, was so severe as to threaten life. A vaginal examination was then for the first time obtained. The finger on being introduced into the vagina en-

countered a large, hard, rounded body, of the size of a fœtal head at full term. The os uteri was displaced backwards and upwards so far as to be out of reach. For the next year the patient was under homœopathic treatment, and the author was not again called in till February, 1876. The pulse was then rapid and small, the tongue furred, extremities cold, bowels constipated, the swelling in the hypogastric region increased, and the abdomen somewhat tympanitic. For some time the severe hemorrhage had been replaced by a sanious, thick, offensive discharge. She was still able to walk about the room, but generally kept her bed. Vaginal examination gave the same result as before, and it was still impossible to reach the os uteri. All surgical interference was therefore judged to be impracticable.

She continued much in the same state till May, 1875, when the author was summoned on account of temporary retention of urine. The tumour had then not appreciably changed its position, but the general health had become more feeble, and there was much difficulty in overcoming an obstinate constipation. The author only saw the patient at long intervals up to June, 1876, at which time her state had very greatly changed for the worse. The face was puffy and pale, and there was considerable œdema of all the limbs, especially the legs; the abdomen was also distended by ascitic fluid; the pulse was thready, and extremities cold. On the inside of both feet were gangrenous patches, which afterwards became converted into sanious ulcers, of which the cure was long and difficult. The patient could not lie down without being threatened with suffocation, and for about two and a half months she had not quitted her arm-chair night or day. On vaginal examination, the tumour was found to be slightly projecting through the os uteri, and thus was explained a colicky pain of which the patient had complained a few days before. The labia were highly œdematous. In view of the very grave general state, the author determined on a plan which he had before found useful in similar conditions; namely, to put in action a powerful local derivative by making a series of issues in each leg with potassa fusa. An abundant discharge of pus mixed with a great quantity of serum was thus produced; the general œdema gradually diminished, the dyspnœa was relieved, and the patient was enabled to rest in bed and obtain sleep. The gangrenous ulcers of the feet gradually healed, and at the end of about two months œdema had given place to extreme emaciation, which from that time went on increasing.

At the end of September pain again set in, and on October 2d the author was summoned on account of retention of urine. The tumour had then completely descended into the pelvis, and partially passed the os uteri, presenting by one extremity in the form of an elongated hard body, which filled all the upper part of the vagina. This so compressed the urethra that catheterism was difficult. Often the catheter entered a false passage, and reached a cavity, at 20 cm. depth, from which issued offensive sanious pus. After a while the bladder regained its functions, and with the exception of occasional hemorrhage, no grave accident occurred up to September, 1877. Although tempted to interfere and attempt the removal of the tumour, after dilatation of the cervix, the author refrained from doing so, fearing the hemorrhage and other risks of the operation in the patient's feeble condition. The final issue of the case occurred in the temporary absence of the author. On September 12th retention of urine occurred, and the catheter was passed with difficulty, the tumour occupying then the whole extent of the entrance of the vulva. On the 15th uterine contractions, like those of labour, set in, and on the morning of the 16th the tumour was found almost completely expelled, and was readily detached, the pedicle or base having been apparently separated and destroyed by the suppuration which had occurred in it. The tumour formed a mass weighing 650 grammes (about 1 pound 7 oz.) and was 18 cm.

long, the greatest circumference being 37 cm. The place of insertion of the pedicle could not be distinctly made out.—*Obstetrical Journal of Great Britain*, May, 1878, from *Archives de Tocologie*, February, 1878..

Medical Jurisprudence and Toxicology.

A Remedy for the Eruption of Poison Oak, Ivy, and Sumach.

Dr. S. A. Brown, U. S. N., reports (*Med. Record*, April 20, 1878) that he has found a specific for the eruption caused by contact with poison oak, sumach, ivy, huahoo, cashew nut, etc. He writes: "This specific is *bromine*. I have used it with the same unvarying success in at least forty cases. The eruption never extends after the first thorough application, and it promptly begins to diminish. Within twenty-four hours, if the application be persisted in, the patient is entirely cured. There is no pain attending its use, as from that of astringents. Of course, the epidermis peels off as after other treatment.

"I use the bromine dissolved in olive oil, in cosmoline, or in glycerine. The application with glycerine is painful, and, I think, possesses no advantage to compensate for the irritation. The strength of the solution is from ten to twenty drops of bromine to the ounce of oil, used by rubbing gently on the affected part three or four times a day, and especially on going to bed at night. You wash off the oil twice a day with castile soap.

"The bromine is so volatile that the solution should be renewed within twenty-four hours of its preparation, as it will get out of a bottle, however well-corked. It is best to stand the bottle on its cork end, in the intervals of application.

Turpentine Vapour in Accidents from Chloroform Vapour.

Dr. Wachsmuth, of Berlin, has suggested the use of turpentine vapour as a preventive of those accidents which frequently occur in the administration of chloroform to produce anæsthesia. He says (*Vierteljahrsschrift für Gerichtliche Medicin*, April 1878) that it is well known to every physician that death often takes place suddenly from the vapour of chloroform, in spite of the greatest care and the use of every precaution before and during its administration. The operator, even when assisted by three or four of his colleagues, may see his patients die before him. There is, he states, a very easy and simple remedy for preventing the occurrence of such a serious accident. It consists in the addition of one part of rectified oil of turpentine to five parts of chloroform. The oil of turpentine in vapour appears to exert a stimulating or life-giving effect on the lungs, and protects these organs from passing into that paralyzed state which seems to be produced by chloroform-narcosis. Dr. Wachsmuth, while lying on a sick bed, accidentally breathed the vapour of turpentine, and he experienced from this a strongly refreshing feeling. This fact induced him to try the plan of adding oil of turpentine to chloroform when the latter was used for anæsthetic purposes. The beneficial results surpassed his expectation.—*London Med. Record*, May 15, 1878.

CONTENTS.

Anatomy and Physiology.

On the Origin of Glycogen and Destination of Sugar. By Dr. McKendrick . . 289

Materia Medica and Therapeutics.

The Properties and Nutritive Value of Peptone. By Dr. Adamkiewicz . . . 290

Medicine.

The Pathology of Inflammation. By Dr. Senftleben 291
The Doctrine of Acetonæmia . . . 294
Progressive Pernicious Anæmia. By Dr. S. T. Sorensen 296
Cure of a Case of Hydrophobia. By Drs. Schmidt and Lebedew 297
Cerebral Syphilis. By Dr. Rabot . . 298
The Treatment of Catalepsy. By Dr. Tebaldi 298
Non-protrusion of the Tongue in some Cases of Aphasia. By Dr. Hughlings Jackson 298
A Case of Asthma successfully treated by Sée's Method. By Dr. Winternitz . . 300
On Thoracentesis. By Dr. Leonpacher . 301
Acute Endocarditis affecting the Pulmonary Valves 302
Effects of Military Drill upon the Heart. By Surgeon F. A. Davy, M.D. . . . 303
The Infantile Diarrhœa of Summer. By Dr. J. Lewis Smith 304
Some Practical Reflections on the Treatment of Intestinal Invagination. By Dr. Bucquoy 305
Spontaneous Rupture of the Spleen. By Mr. E. Markham Skerritt 307
Dysidrosis and its Morbid Anatomy. By Dr. Tilbury Fox 309
An Anomalous Mottled Rash, accompanied by Pruritus, Factitious Urticaria, and Pigmentation. By Dr. A. Sangster . 310
Cacotrophia Folliculorum (Follicular Malnutrition). By Dr. Tilbury Fox . . 312
Chrysophanic Acid Ointment in Psoriasis. By Dr. Neumann 314

Surgery.

The Surgical Pathology of the Nerves. By Dr. T. Gluck 314
Tuberculosis of the Tongue. By M. Millard 317
Gurjun Balsam in Gonorrhœa . . . 319
Direct Injections into the Bladder through the Urethra. By Dr. Bertholle . . 319
The Local Use of Solution of Quinia in Chronic Irritation of the Bladder. By Mr. J. Knowsley Thornton . . . 320
Morphia and a Tell-Tale as aids to Compression in Aneurism. By Mr. C. F. Maunder 321
Aneurism of Subclavian and Axillary Artery treated by Rest and Restricted Diet. By Mr. Hulke 322
Notes on a Case of Multiple Exostoses. By Mr. Thomas Jones 322
Subcutaneous Extra-Articular Osteotomy for Genu Valgum. By Mr. Reeves . 323
Disarticulation at the Elbow-joint. By Dr. von Langenbeck 325
Resection of the Knee-joint. By Dr. von Langenbeck 325

Midwifery and Gynæcology.

Cæsarean Section and Removal of Uterus. By Prof. Spath 326
Cæsarean Section with Extirpation of the Uterus. By Dr. Müller 327
Milk Fever. By Mr. Arthur V. Macan . 328
Failure of Milk Diet in the Albuminuria of Pregnancy. By Dr. N. Charles . . 328
Puerperal Insanity. By Dr. Ripping . 330
Treatment of Amenorrhœa. By Prof. Courty 331
Effusion of Blood into the Peritoneal Cavity. By Dr. Robert Barnes . . . 332
Spontaneous Expulsion of a Large Fibroid Tumour. By Dr. Ygovia 332

Medical Jurisprudence and Toxicology.

A Remedy for the Eruption of Poison Oak, Ivy, and Sumach. By Dr. S. A. Brown, U.S.N. 335
Turpentine Vapour in Accidents from Chloroform Vapour. By Dr. Washamuth . 335

Published Monthly, price $2.50 *per annum, free of postage.*

Also, furnished together with the AMERICAN JOURNAL OF THE MEDICAL SCIENCES *and the* MEDICAL NEWS AND LIBRARY *for* SIX DOLLARS *per annum in advance, the whole free of postage.*

HENRY C. LEA, Philadelphia.

THE MONTHLY ABSTRACT
OF
MEDICAL SCIENCE.

VOL. V. No. 8. For List of Contents see last page. AUGUST, 1878.

Anatomy and Physiology.

The Origin of the Chorda Tympani.

AT a meeting of the Académie des Sciences of Paris on April 29th, M. VULPIAN announced the results of an important series of experiments made to determine the true origin of the chorda tympani nerve. It is well known that disease or injury to the facial nerve in the aqueductus Fallopii—that is, above the separation of the chorda tympani—produces partial loss of gustatory sensation in the anterior two-thirds of the same side of the tongue, together with dryness of the same part and arrest of secretion of the submaxillary gland. This different action from that of the facial, and the fact that the fibres of the chorda tympani are finer than those of the former nerve, have led to the belief that the deep origin must be different. One view is that it arises from the so-called intermediate nerve of Wrisberg, which is by some held to be a bulbar root of the sympathetic, by others a part of the glosso-pharyngeal nerve, the latter being the view now held to be most correct. The other hypothesis is that the chorda tympani is formed by fibres from the superior maxillary branch of the fifth nerve, which pass backwards to join the facial close to the geniculate ganglion. M. Vulpian's experiments were directed to ascertain which, if either, of these hypotheses is correct. It is now known by the researches of J. L. Prevost that removal of the spheno-palatine ganglion causes no degeneration in the great superficial petrosal nerve, through which the fibres from the fifth are supposed to pass; nor does it, according to M. Vulpian, affect the nutrition of the chorda tympani.

In order to determine the relation to the facial and nerve of Wrisberg, M. Vulpian divided these nerves at the entrance into the internal auditory meatus. On examining the nerves from ten to twenty days later, it was found that all the fibres of the facial were more or less atrophied, but those of the chorda tympani intact. The great superficial petrosal was altered, but the nerve to the tensor tympani was unaffected. Similar results followed the section of the facial nerve near its origin, complete atrophy of all the peripheral branches resulting, but the chorda tympani being unchanged. But these experiments made on dogs were inconclusive, for it is possible that the geniculate ganglion is the trophic ganglion of the chorda tympani, and hence section above this would not cause atrophy. In another series of experiments on rabbits, M. Vulpian endeavoured to determine the effect of section of the fifth nerve within the skull. On account of difficulties in dividing the nerve completely without causing fatal injury, the results were inconclusive, but so far as they went they showed that complete section of the fifth was followed by atrophy of the chorda tympani, the facial remaining unaltered. It was also observed that when the motor root of the fifth had been divided, the fibres supplying the tensor tympani were atrophied. The experiments, so far as they go, indicate the great probability of the origin of the chorda tympani from

the fifth nerve, and M. Vulpian promised to communicate the results of further observations directed to the solution of the question.—*Lancet*, June 15, 1878.

Physiology of the Salivary Secretion.

The first number of the new *Journal of Physiology*, edited by Dr. Michael Foster, contains an interesting article by Dr. LANGLEY on the Physiology of the Salivary Secretion. In this paper Dr. Langley points out that the well-known effects of stimulation of the chorda tympani and sympathetic nerve on the secretion—the former yielding a watery, the latter a viscid, saliva—are true only in the case of the dog, and that precisely the opposite effects occur in the case of the cat. In this animal both the secretions are watery, but the sympathetic saliva is less viscid or more watery than the chorda saliva. It was known again, from Heidenhain's experiments, that the action of atropine is different on the behaviour of the chorda and sympathetic nerves, a very small dose completely paralyzing the chorda, whilst a very large one does not paralyze the sympathetic. Dr. Langley, however, finds that in the cat atropine readily paralyzes the sympathetic secretion, as well as that of the chorda, and even thinks that in the case of the dog the difference is more one of degree than of kind. He is unable to speak positively, but seems inclined to think that the atropine acts both on the nerve-endings and upon the cells themselves. Kühne was of opinion that the two nerves are antagonistic, but even assuming this to be the case in the dog, it does not hold good for the cat, in which Dr. Langley finds that minimal effective stimuli, when applied simultaneously to the chorda and sympathetic nerves, are not antagonistic as regards secretion; on the contrary, the amount of secretion from the simultaneous stimulation is at least equal to the sum or the amounts from separate stimulation. He finds, further, that impulses travelling down one nerve produce their effect on the salivary cells, whether the other nerve be functionally active or not.—*Lancet*, June 15, 1878.

Materia Medica and Therapeutics.

The Action of Anæsthetics.

The double danger of anæsthetics, arising from their variable influence on the respiratory and cardiac centres, has long been familiar to those engaged in their administration. This double action has been lately studied on animals by M. VULPIAN, who has communicated to the Académie des Sciences a note on the subject of some practical interest. The special point which it embraces is the effect of the various anæsthetic agents on the pneumogastric, as shown by the test afforded by the experiments of Weber and Traube on the section and stimulation of the nerve.

Curara, as is well known, does not influence, in any considerable degree, the effect on the heart of faradization of the divided pneumogastrics. The heart is arrested in paralytic relaxation, but gradually, after some seconds, its movements recommence, even though the ends of the pneumogastrics are still being stimulated. Nevertheless, the effect of faradization of the peripheral segments of the pneumogastrics is not absolutely the same in a curarized and in an unpoisoned animal. The effect of faradization of a single vagus is less marked, and the diastolic arrest of the heart is less prolonged under the influence of curara. If

the influence of the poison is profound, there is a period during which the strongest faradization of the pneumogastrics has no other effect upon the heart than to accelerate its movements. From this it is evident that the curara does not, as was once supposed, leave intact the cardiac extremities of these nerves.

Anæsthetics, however, have been found by M. Vulpian also to have a marked and very different influence on the excitation of the peripheral extremities of the pneumogastrics, and a still greater influence on the effect of excitation of the central extremities of the same nerves. The effect of chloral hydrate may be taken as an instance of this. If a solution of chloral be injected into the vein of a dog in a quantity sufficient to produce a profound sleep, complete anæsthesia is produced. The movements of the heart and of respiration continue. Occasionally, especially if the injection has been rapid, the respiratory movements suddenly cease, the heart continuing to beat for some minutes. Commonly the breathing recommences if artificial respiration is maintained for a few minutes, or if the trunk be faradized, intermittently, about twenty times a minute. It is sometimes necessary to continue this respiration for ten or twenty minutes before the spontaneous movements recommence. Occasionally this respiratory syncope, as it is termed by M. Vulpian, occurs only some time after the injection, and during an experiment, perhaps in consequence of the traumatic irritation. Very similar accidents may be observed in animals placed under the influence of ether, chloroform, and analogous substances.

Another accident which may occur in dogs under the influence of chloral is the more or less sudden arrest of the heart's action, either during the intravenous injection or during an experiment involving irritation of the sensory nerves. The respiratory movements continue for some seconds after the heart has ceased to beat. It is very rarely that the cardiac contraction can be restored, even by faradization employed at the moment at which the heart has ceased to beat. This cardiac syncope is also observed in animals under the influence of ether and chloroform. It is certainly sometimes due to the reflex influence of nerves irritated during an operation, but occurs as a result of this irritation much more readily in animals under the influence of an anæsthetic than in those which are not, or which are under the influence of curara. The comparative immunity from this accident which is presented by curarized animals is no doubt to be attributed to the influence of the poison in moderating the action of the pneumogastrics upon the heart.

From the phenomena mentioned above it is evident that the respiratory centre suffers remarkably in animals under the influence of anæsthetics, and especially under that of chloral. A slight increase in the quantity of chloral in the circulation, or a reflex influence, may arrest its action. So also with the cardiac centre. If the experiment of faradizing the pneumogastrics is repeated upon animals under the influence of chloral, it is found that the stimulation of the central ends of the divided nerves arrests the movements of respiration, just as in an animal of the same kind under normal conditions; but whereas in the latter the respiratory movements go on again spontaneously and easily in most cases, in spite of the continuance of the stimulation, they do not return spontaneously in dogs under the influence of chloral, and the animals die unless the faradization is stopped and artificial respiration employed, either alone or with the addition of intermitting faradization of the trunk. Sometimes a few seconds' faradization of the superior segments of the vagus nerve is sufficient to produce this arrest. Thus under these conditions we may have, on faradization of the central ends of the divided pneumogastrics, the same effect which M. Paul Bert has observed in animals not chloralized—sudden death. If the experiment is repeated in the same dog, the same result may be obtained two or three times, but not more. It is subsequently impossible thus to cause a persistent arrest of respiration. The

spontaneous movements return after a suspension of a greater or less duration, although the faradization of the superior extremities of the vagi is continued. If in the same complete chloralization the peripheral extremities of the pneumogastrics are faradized, the heart is arrested in diastole just as in animals, under normal conditions, and, what is rarely observed otherwise, it may be permanently arrested if the stimulation is prolonged for a short time.

These experiments illustrate very strikingly the phenomena which are sometimes observed in man, and they are of especial value in their proof of the influence which traumatic irritation may have in arresting the action of a centre depressed by the influence of an anæsthetic. But the experiments stop just where we should like them to go on. The differences in this respect, if any, which are to be observed between ether and chloroform is a point of great practical importance, and on which we hope M. Vulpian may be able to furnish us with further information.—*Lancet*, June 22, 1878.

—

On Myotics and Mydriatics.

M. PANAS (*France Médicale*) observes that the physiological observations of Adamuk, Grunhagen, and others, indicate that atropine diminishes intraocular pressure. On the other hand, the clinical experience of von Gräfe, Wharton Jones, and Ernest Hart, has shown that atropine increases ocular pressure in the glaucomatous condition; and they have laid down the rule that the clinical use of atropine is to be strictly avoided in pathological conditions accompanied by increased intraocular tension. M. Panas considers that the two groups of observations are not necessarily opposed; in the physiological condition atropine diminishes tension, in the pathological condition it augments tension. The latter effect is explained by the fact that atropine contracts the vessels in dilating the pupil, and causes the blood of the iris to flow backward to the ciliary processes. Further, atropine paralyzes the circular muscular fibres of the vessels; thus, there is a more considerable afflux of blood, and, consequently, exaggerated tension of the eye. The effect of eserine in the physiological state would be, on the contrary, to contract the sphincter muscle of the pupil and the ciliary muscle, whence the tension is augmented. But, in glaucoma, eserine may contribute to diminish the intraocular tension, because, in contracting the vessels and narrowing the pupil, it enlarges the canal of Fontana. The canal of Fontana, situate in the circumference of the iris must, of course, not be confounded here with the canal of Schlemm, which is situated at the junction of the ciliary processes, cornea, and sclerotic.—*London Medical Record*, June 15, 1878.

—

An Undescribed Effect of the Action of Chloral Hydrate.

I. RANKE injected (*Bayr. ärztliche Intelligenzblatt*, No. 30, 1877) into the crural artery of a rabbit a ten per cent. watery solution of chloral hydrate, and observed that after a few fibrillar contractions, the muscles of the limb passed into a condition of rigidity, resembling that which results from the injection of chloroform. But if a solution of hydrate of chloral be added to a solution of myosin, no drops with myosin sheath or investment are produced as on the addition of chloroform, but well-marked rigidity is observed. Ranke concludes from this that the chloral hydrate precipitates the albumen as chloral molecule, and that this in all probability occasions the muscle-rigor. In conclusion he warns practitioners of the danger of the injection of chloral into the veins with the object of producing narcosis, on account of its action on the heart.—*Practitioner*, June, 1878.

The Antiseptic and Therapeutic Properties of Boracic Acid.

G. POLLI has reported at a recent meeting of the Academy of Sciences of Lombardy the results of numerous researches in which beer, meat, eggs, blood, and urine were treated with boracic acid and borax for thirty days during the summer time, and were found still to retain their freshness, and to present no traces of fermentation having taking place in them. In control experiments, on the other hand, without the addition of the salt, but, in some instances, with the addition of sulphate of soda, the fluids passed into a state of complete decomposition in the course of fifteen days. The energetic disinfecting power possessed by boracic acid and borax, and the facility with which these substances can be absorbed into the economy, led Polli to recommend their employment in diseases in regard to the infectious nature of which no doubt exists, or in which septic conditions readily arise. He adduces several examples in which the febrile conditions of tuberculosis underwent diminution. No benefit was obtained by Professor Visconti from experiments made with these remedies in malaria, though other observers have arrived at a different conclusion. In chronic cystitis the mucopurulent discharge quickly diminished, and even altogether disappeared in the course of a few days, and rapid improvement occurred in cases of bad suppurating wounds when they were applied externally. The dose recommended by Polli is 75 grains of boracic acid and 150 grains of borax per diem.—*Lancet*, June 15, 1878.

—

On the Action of Cyclamin.

In an article published in *Il Morgagni* for December, Dr. CHIRONE describes a number of experiments on the physiological action of cyclamin, made in the pharmacological laboratory of the University of Naples, and sums up in the following conclusions.

1. Cyclamin has a very important local action, especially on the subcutaneous connective tissue, in which it produces sloughing and extensive ulceration; this, however, heals spontaneously, and seldom or never causes the death of the animal.

2. Cyclamin kills all animals without distinction by its general action.

3. Cyclamism, or the physiological action of cyclamin, is manifested by the following symptoms: stupefaction; hyperæsthesia, which may sometimes lead to spontaneous convulsions; fall of temperature; weakness and frequency of the movements of the heart; respiration sometimes frequent and shallow, sometimes rare, deep, and difficult. With a larger dose, the symptoms are: increased stupefaction; very great hyperæsthesia, and convulsions readily produced; considerable rise of temperature; the heart's action weak, hurried, and irregular; respirations irregular; ready production of serous exudations with effusion of hæmatin; finally, rapid fall of temperature, coma, and death.

4. The action of cyclamin never shows itself with great rapidity, and may last three or four days, or may kill within forty-eight hours. The slowness of its action is due to slowness of absorption.

5. Cyclamin acts directly on the blood, and influences the whole system by the grave changes which it produces in the blood.

6. Cyclamin blackens the blood as soon as it comes into contact with it.

7. The spectrum of oxyhæmoglobin is profoundly modified by cyclamin. In the first place, the two striæ characteristic of oxyhæmoglobin disappear, and the band peculiar to reduced hæmoglobin comes into view. Hæmoglobin reduced by cyclamin, however, does not for several days lose its tendency and again become oxidized; and, if it be shaken in contact with air, the striæ of oxyhæmoglobin reappear. The prolonged action of cyclamin decomposes hæmoglobin and libe-

rates hæmatin; sometimes producing in the spectrum a dark band on the red in the vicinity of the line C of Fraunhofer, sometimes two very faint bands between D and E. When the hæmoglobin is decomposed, all absorption-bands disappear from the spectrum of blood treated with cyclamin, except that of hæmatin. The hæmatin bands, however, soon disappear in consequence of its spontaneous absorption.

8. A solution of hæmatin, treated with cyclamin, first becomes of a red colour tending to blue, then of a yellow colour.

9. It may be that cyclamin acts in the blood by producing a special fermentation; but Dr. Chirone believes that it decomposes hæmoglobin by combining directly with globulin (of Denis) and setting hæmatin free.

10. The precipitate produced by the action of cyclamin on the blood resembles cyclamin itself in many characters.

11. Cyclamin decomposes the hæmoglobin of putrid blood much more easily than that of fresh blood; but the precipitate obtained in the first case is very impure from admixture of organic detritus.—*London Med. Record*, June 15, 1878.

Physiological and Pathological Action of Alcohol and Essence of Absinth.

The chief facts contained in this paper by MAGNAN (*Annales Médico-Psychologiques*), may be placed under the following heads:—

1. The immediate action of alcohol, given in a sufficient quantity, is to produce drunkenness.

2. The prolonged use of alcohol in the dog is followed by progressive symptoms with each new dose of the poison, which show the progressive phenomena in the solution of alcoholism. On the fifteenth day of the intoxication, irritability and impressionability supervene; ten days after this there are illusions and hallucinations at night, and in about a month some delirium, both by day and by night.

3. The prolonged use of alcohol gives rise again in the second month to some trembling, which shows itself at first in the hind feet, next reaches the fore-feet, and extends progressively to all parts of the body. In some cases it does not produce epileptic attacks. Finally, digestive disturbances and various complications occur, closely resembling those to which human alcoholics succumb.

4. The anatomical lesions of alcoholism in the dog show in various degrees a fatty degeneration (kidney and heart) and tendency to chronic irritations (meninges, spinal cord, and pericardium).

5. Essence of absinth in a weak dose produces vertigo and muscular tremor in the anterior parts of the body; a large dose produces epileptic attacks and delirium.

6. In the first stage (tonic convulsions) of the absinthic attack, the pupils dilate; there is injection of the optic papilla in the fundus of the eye, and congestion of the brain. These phenomena are not in accord with the generally admitted theories of the mechanism of epilepsy.

7. Animals deprived of the cerebral lobes show, under the influence of the essence of absinth, epileptic attacks, and the tremors resembling the convulsive attacks of subjects not suffering under mutilation of these parts.

8. After section of the spinal cord below the bulb, the intravenous injection of absinth produced an attack of clonic and tonic convulsions of the head, with foaming at the mouth, and then an attack of a more distinctly spinal character, tonic and clonic convulsions of the trunk, with expulsion of the urine and feces.

9. The isolated action of each segment of the cord in the regions supplied by it, gives reason for a belief that a totality of the organ is necessary for the production of the complete epileptic attack.—*London Med. Record*, June 15, 1878.

Therapeutic Employment of the Pancreas and the Meat-pancreas Clyster of Leube.

The pancreatic secretion is the most important of all those that are discharged into the small intestine. Its quantity is greatest during digestion. Schmidt, from his experiments on animals, estimates it for a man weighing 150 lb. at 4225 grammes (upwards of 9 lb.). Its functions consist in the conversion of starch into sugar, which is effected much more perfectly and rapidly by the pancreas than by the salivary glands; the conversion of albumen and gelatine into peptones, and the preparation of fat for the process of absorption by the lacteals. V. Wittich has obtained by the maceration of the pancreas in glycerine the two ferments which act on starch and albumen in a separate state. Defresne has recommended pancreatine in physical cases where the patient is unable to digest or assimilate cod-liver oil; in cases of jaundice in which fat is badly digested; in cases of dyspepsia in which fat is found in the motions; in those cases of dyspepsia in which the patient experiences abdominal pains, vomiting, diarrhœa, and flatulence several hours after meals; and, speaking generally, in those cases of disturbances of digestion in which the fats and starches are badly assimilated, and where pepsin is found to be useless. Eugesser directs that the pancreas should be minced, pressed through a hair-sieve, and administered in beef-tea, which must, however, not be at a higher temperature than 50° C. (122° F) at the time of mixture, lest the pancreas ferment be coagulated. The best temperature is that of the mouth, and all seasoning and vegetables may be afterwards added. It is a good plan to soak the gland, finely divided, in a pint of water, to which eight or ten drops of hydrochloric acid has been added. His experiments show that the admixture of the pancreas with the food is capable of passing through the stomach without losing its activity. In all cases where it is inexpedient to administer food by the mouth, Leube's meat-pancreas clyster may be given, and excellent results have been obtained in many instances. There can be no doubt that the large intestine presents an absorbing surface, as may indeed be easily shown experimentally by injecting a little salicylic acid, which may be shown to have entered the urine. Dr. Düring, of Westenhofen, reports a case of a woman, forty-eight years of age, who suffered from an abdominal aneurism, and vomited everything she took as food, and even water, so that she had fallen into a state of complete inanition. Dr. Düring at once prescribed Leube's nutritive enemata—50 grammes of meat, or about 2 ounces, were ordered, with 16 grammes or 3 drachms of pancreas, the two substances being minced together and broken down into a fine pulp, with a little warm water. One half of this was injected into the rectum in the morning, and the other half in the evening. The latter portion remained from 8 to 10 hours in the rectum, after which a fecal evacuation occurred. The patient was supported in this way from the 4th of March to the 21st of April, when the power of gastric digestion returned, and the clysters were intermitted with the recovery of digestion; the patient's health improved, and the tumour diminished in size. Another case has recently been reported of cancer of the œsophagus, in which life was preserved for nine months.—*Practitioner*, June, 1878, from *Der Praktische Arzt*, Feb. 1878.

Medicine.

Sudden Death in Diabetes.

Dr. Jules Cyr, in a very interesting memoir published in the recent numbers of the *Archives Générales de Médecine*, has given an account of several cases observed at Vichy, in which death has occurred suddenly, from which he concludes that in some cases, and those the most numerous, the persons have been surprised in a state of health which gave no reason to suppose that so sudden and disastrous a result would occur; others have been attacked by acute diabetes; others have arrived at an advanced period of emaciation due to diabetes, so that the fatal termination was not surprising. In all these cases, three principal stages or symptoms were observed with considerable constancy: 1, excitement; 2, dyspnœa; 3, coma. The period of excitement is manifested by some incoherence, vivacity, and rapidity of speech with some indistinctness, vague *malaise*, and disquietude going on even to anguish. To this excitement succeeds difficulty of breathing, occurring suddenly and sometimes voluntarily; large expirations made with effort; the thorax-muscles acting vigorously, the lungs dilating, and nevertheless oppression persisting, so that the air which penetrates the lungs appears not to be acting on the lungs, and the gaseous exchange to be impeded. The blood has, as it were, lost the faculty of revivifying itself in contact with the atmospheric oxygen. This stage is the most characteristic. It is followed by exhaustion and coma; and death occurs sometimes in twenty-four hours, sometimes in less. *Post-mortem* examination was made in eight cases out of thirty which were observed. The most variable lesions were recognized; congestion of the abdominal viscera and of the lungs, fatty degeneration of the pancreas, œdema of the lungs and of the glottis, congestion of the pia mater, etc.; and sometimes nothing at all. The diagnosis is difficult, if the existence of diabetes be not previously known. The pallor, the total absence of contractions or convulsions, the complete collapse, and the sometimes spirituous odor of the breath, characterize this coma; and of course the examination of the urine reveals its true origin. No treatment has appeared to produce any good result. The cases are especially those of young subjects between twenty and thirty years, which coincides with the well-known clinical fact that diabetes is the more grave in proportion as the subject is the less advanced in age. The determining cause of the symptoms has appeared to be excessive fatigue, long journeys, etc. Among the diverse theories which have arisen to explain these facts, two appear specially acceptable. The first—that of acetonæmia and the poisoning by acetone produced by the abnormal formation of glycose or paraglycose—is referred to. Acetone is a stupefying substance, which by its action at once resembles ether and alcohol. It appears, therefore, very natural that the cause of sudden death in the course of diabetes may be attributed to poisoning by this substance. The second theory—hyperglycæmia—explains also the succession of phenomena. The retention of sugar is a consequence of the diminution of the urine and sugar excreted, whence a change in the composition of the blood; sudden arrest of the vital phenomena, and cessation of the oxygenation of the blood, whence dyspnœa, muscular resolution, and coma. This anoxæmia would produce a rapid death, and without applying specially to cases ending in three to four hours. These theories, however, are not universally applicable, and further researches are required. These researches are especially interesting in connection with the clinical study of acetonæmia in our pages.—*British Med. Journ.*, June 8, 1878.

Treatment of Chronic Alcoholism.

In reply to a question by a correspondent in the *British Medical Journal* for May 4, p. 669, regarding the best treatment for the tremors of chronic alcoholism, and a substitute for the constant craving for drink which exists, Dr. LAUDER BRUNTON recommends fifteen minims of tincture of perchloride of iron, with ten minims of tincture of nux vomica, as most efficacious for the tremors, combined with bromide of potassium if restless at night. The chalybeate mixture, either alone or with the addition of tincture of capsicum (five or ten minims), relieves the craving for drink, for which purpose also a mixture of carbonate of ammonia in infusion of gentian is valuable. If there be derangement of the stomach, it should be treated by ten-grain doses of subnitrate or carbonate of bismuth, with magnesia and tragacanth.—*London Med. Record*, June 15, 1878.

The Influence of Injuries upon the Development of Hysteria and Paralysis Agitans.[1]

It is well known that certain affections, dependent upon a diathetic disease, may be developed as the result of an injury. and localize themselves in the parts where the pressure, blow, or friction was produced. This is the case in articular rheumatism, both acute and chronic, and in gout, as M. CHARCOT has many times demonstrated. M. Verneuil and his colleagues have in recent times pointed out the value of the study of facts of this kind from a surgical point of view. It is less known, perhaps, that some of the local phenomena of hysteria manifest themselves sometimes in the same way under similar influences. Sir B. Brodie was not ignorant of this, as many passages of his admirable little book (*Lectures Illustrative of Certain Local Nervous Affections*, London, 1837) fully testify. "He was, perhaps, the first," says M. Charcot, "to draw attention to these phenomena of a local hysteria developed by the direct effect of an injury." "It frequently happens," says Brodie, "that the local symptoms of hysteria appear to be due to the operation of an external cause; and as the injury in question is often very slight, quite out of proportion to the effects produced, these symptoms are often misunderstood, misinterpreted; they are regarded as something quite different from what they really are. It is not rare," says the eminent surgeon, "to see, for example, a young woman whose finger has been pricked or pinched, complain, a short time after the little accident, of a pain which extends from the fingers up the hand and forearm. The pain may be complicated by a convulsive action of the muscles of the arm, or by a continued contraction of the flexors or of the anterior part of the arm, so that the forearm is kept bent in a permanent manner, at least while the patient is awake, for the spasm is generally relaxed during sleep." "A young girl, aged 11 or 12, pricked the index finger of the left hand with a pair of scissors. This was followed immediately by pain running up the course of the median nerve. On the following day there occurred muscular contractions, fixing the forearm at a right angle to the arm. Some days afterwards all the muscles of the forearm were the seat of violent spasms, producing, in the arm and forearm, singular convulsive movements. Later on, nausea and vomiting supervened, and for two days she rejected everything that was introduced into her stomach. In course of time the other limbs became similarly affected, and it became impossible for the young patient to walk or to stand erect. Now and then there was a spasm of the diaphragm, with threatened suffocation, or permanent closure of the jaws determined by spasm of the masseter, and finally a sharp pain in the head, recalling the pain of the pricked finger.

[1] Progrès Médical, May 4, 1878.

Surgical interference, attempted many times, had rather the effect of increasing the evil. Nevertheless, the cure took place spontaneously at the end of two years." M. Charcot then alluded to a certain number of cases which he had met with in his practice, and which illustrate the theoretical and practical interest of Brodie's observations. Two are now reported, to serve as examples.

CASE I.—Towards the middle of April, 1877, Mlle. X., in falling, hurt the back of her hand against a stool; tolerably smart pain and a little swelling followed. Two or three days afterwards the little finger of this hand commenced to flex itself in a permanent fashion; then the flexion successively attacked the other fingers, and the thumb was applied to the index and ring fingers. From this time her hand remained permanently clenched, both day and night, even during the most profound sleep, in opposition to the remark made by Brodie on similar cases. The flexion of the fingers was so marked that their reduction was almost impossible, and it was necessary to interpose a cloth to prevent the nails from wounding the palm of the hand. The various attempts made at reduction seemed always followed by an aggravation of the contraction. Things were in this state on the 31st May, six weeks after the accident, when M. Charcot saw the case, in consultation with Professor Richet and Dr. de Wailly. On that day the fist was firmly closed as usual, the wrist also was stiff, like the fingers, and there was complete anæsthesia of the whole hand, wrist, and lower half of the forearm, as marked anteriorly as posteriorly. The elbow did not share in the contraction. Mlle. X. had never suffered from nervous attacks. She was calm, of an equable and rather lively temperament; nothing had changed in her mode of life. There was no trace of ovarian pain. The menstrual periods had occurred twice since the accident, but were unattended with anything of note. There were no modifications of sensibility beyond the parts noted. Five days after the consultation, without the intervention of any circumstance, her hand suddenly opened, and she recovered all its movements.

CASE II.—On the 17th April, 1877, Hortense X., aged 27, had the right forearm squeezed between a wall and a turn-table, upon which lay glass articles for polishing. A sharp pain immediately followed in the part submitted to the pressure, and some swelling with ecchymosis, but no wound. She stated that, some instances later, contraction to semi-flexion took place in the ring and little fingers of the right hand. During the succeeding days, the fingers of the other hand were affected by the same sort of contraction. Under the influence of discutient remedies the swelling and ecchymosis soon disappeared, but, the pain and contraction persisting, she decided to come into hospital, and was admitted to Dr. Leroy's surgical wards on June 13, 1877, two months after the accident. The following conditions were noted. The inner four fingers of the right hand were slightly flexed at the metacarpo-phalangeal articulation, so as to form an obtuse angle of about 130° to 150° with the palm of the hand. The two other phalanges of these same fingers were rigidly extended. The thumb, although enjoying a certain mobility, was not quite free; the wrist was also rigid; indeed the general appearance was that of a hand methodically holding a pen. In the whole extent of the arm, forearm, and hand, there existed permanently a pain which from time to time was spontaneously exasperated. The pain was exasperated and became atrocious whenever the patient attempted to execute any movement, and also when the pressure was made upon any part of the limb. This pain was especially intense when pressure was made over the anterior surface of the arm, particularly in the course of the median nerve. If pressure were persisted in, a sort of nervous crisis occurred, which many times had led to loss of consciousness. There was neither redness nor tumefaction of the painful parts; the ecchymosis had disappeared a long while. The exquisite pain produced by the slight-

est touch rendering a thorough examination of the limb impossible, it was decided, five or six days after her admission, to put her under chloroform. The examination thus made discovered nothing to account for the remarkable pains. It was observed that, in spite of very profound narcosis, the contracted parts were not completely relaxed; in truth, one could, although not without effort, extend completely the fingers, or flex them, or move the wrist in all directions, but as soon as they were released they returned to their previous attitudes. All these accidents, pain, and contraction, had persisted up to the beginning of August, without any modification, when, on one of the first days of that month, without appreciable cause, the contraction suddenly disappeared, as well as the pain; then supervened a complete paralysis of both motion and sensation, affecting the whole right upper extremity; of which henceforth there was complete resolution. Soon afterwards it was noticed that the inferior extremity of the same side was also paralyzed in motion like the upper, but to a less degree, while in sensation it was quite as complete. This last event led to a careful examination of the sensibility of the whole body; it was found that there existed complete right hemianæsthesia, affecting both general and special sensations, vision and smell included. Moreover, very marked pain was discovered in the right ovarian region, of which, up to this time, the patient had made no complaint. From this time a great number of other hysterical symptoms manifested themselves in succession, the hemianæsthesia and ovarian pain persisting without variations. One day it was great dyspnœa, laboured respiration, with threatened suffocation; another day it might be pains in the præcordia, radiating to the left shoulder; or, again, a dry and convulsive cough, a violent fixed pain in the left temple; another day retention of urine. For more than a month she vomited all her food, which did not prevent her from maintaining a certain *embonpoint*. There never was any regular hystero-epileptic attack. It is important to note that she first menstruated at 18, married at 20, became the mother of six children, and had never suffered from any serious illness before the accident which brought her to the hospital. She was very nervous, very irritable; but she never had, properly speaking, hysterical attacks. The phenomena which have been described, viz., hemianæsthesia, paralysis, ovarian pain, various spasms, etc., still were present upon the 24th October, when M. Charcot, by the kindness of M. Leroy, had an opportunity of examining the case.

M. Charcot would sum up our knowledge of this subject of traumatic local hysteria thus. More or less exquisite cutaneous hyperæsthesia, deeper pains occupying the course of the nerve-trunks, or apparently situated more specially in one or several joints, more or less marked contractions,—such are the phenomena which occur immediately after, or a little after, the injury. These symptoms rarely remain limited to the region thus affected, but extend themselves rapidly to neighbouring parts, and can even occupy the whole extent of a limb. Once established, they frequently persist in the same condition, with desperate tenacity, for many weeks, many months, even many years. The slightest touch, the least friction. the smallest movement provoked, exasperates the pains and the contractions. These are also all liable to spontaneous exasperation from time to time, without any external cause. There is sometimes superadded, principally during the spontaneous exacerbations just referred to, swelling, redness, and relative elevation of temperature in the affected parts. As a rule, sooner or later the hyperæsthesia and pains give place to anæsthesia; nevertheless the muscular contraction persists, yet it also may be replaced by paresis, or even paralysis, with resolution of the muscles.

These symptoms, resulting from a mechanical cause, are generally the first revelation of the hysterical diathesis, hitherto latent; and they usually constitute

during a long time the sole symptoms, existing alone, without the addition of other nervous phenomena. From this double point of view they ought to be considered as equivalent to those local neuropathic symptoms of the same kind, which are one of the most singular attributes of infantile hysteria. It is not rare, as we know, to see in little girls of 10 or 12 perhaps a nervous cough, perhaps a spasmodic wry-neck, or a permanent contraction of certain muscles of a whole limb, a joint-affection, simulating arthritis or coxalgia, one after the other occupying the pathological scene for weeks or even months; then one day they disappear all at once, leaving no traces. But this is after all very frequently only a truce. Some months, some years later, when the previous phenomena have been completely forgotten, when the sexual functions are established, ovarian hysteria supervenes, with all its train of henceforth classic phenomena, viz., sensorial, and sensory anæsthesia, ovaralgia, characteristic convulsive attacks, peculiar psychical troubles, etc. At other times "general hysteria" comes to be added to "local hysteria," without intermission, without time for repose, and then the relations between the two are easily illustrated. That which has just been said of infantile local hysteria may be applied in all respects to local hysteria of mechanical origin. They are, indeed, but two varieties of the same species. It is very remarkable, in fact that traumatisms never produce the effects in question, except among young subjects at present destitute of all well-marked signs of generalized hysteria. When ovarian hysteria is developed and established with all its army of symptoms, mechanical injuries do not seem to produce the same effect. Such is, at least, the conclusion to which M. Charcot's observations point; and in illustration, he quotes the case of a patient of his, named Geneviève L., aged 35, who has suffered for many years from hystero-epilepsy, with generalized anæsthesia, and frequently during the intervals of her attacks is affected with contractions of the limbs, which persist during many days. Many times she has broken, in falling, the bones of a forearm or leg, but these fractures have never been the cause of the development of pains or contractions; consolidation has taken place in the ordinary manner, and has not been marked by any special accident.

Every one knows the difficulty of diagnosis presented by local hysteria, especially when it supervenes alone. These difficulties are not lessened by the fact that they recognize their origin in a traumatic influence. They have, nevertheless, more importance, as the wrong diagnosis to which they may point (arthritis, coxalgia, neuralgia, etc.) leads to active intervention nearly always untimely and injurious. Observation demonstrates that blisters and cauteries, galvanization and faradization, prolonged rest, attempts at reduction of all kinds, division of nerves and tendons, almost always exasperate the malady, and are sometimes followed by more disastrous effects. On the whole, it is only the consideration of the general state that might so inspire therapeutical efforts, and so far as the local phenomena are concerned, the expectant attitude in the actual state of our knowledge is much the most safe. This is, perhaps, the place to recall the words of Brodie, by which in the book referred to above he prefaces his remarks upon the surgical treatment of local hysterical affections. "The advice which I have to give you," says he, "will be generally negative. It is not so much what you ought to do, as what you ought to know not to do."

It is not in hysteria only that the localization of pathological phenomena may be determined by a mechanical cause. The same fact can be produced in other diseases which, like hysteria, belong to the great provisional group of the neuroses. This is the case, for example, in paralysis agitans, in Parkinson's disease. M. Charcot relates the history of a lady who, falling from a carriage, severely bruised her left thigh; after some time, a sharp pain supervened in the limb, occupying the course of the sciatic nerve, and a little afterwards a tremor declared itself

throughout the entire limb. At first temporary, this trembling became later on more permanent and finally extended to the other extremities (*Leçons sur les Maladies du Système Nerveux*, tome i, p. 185). The chief peculiarities of the preceding case were represented, except for some modifications, in two cases which were shown by M. Charcot to his audience. In 1873, F., aged 55, got a sprain of her left foot, with swelling, ecchymoses, etc. Shortly afterwards the swelling and difficulty of walking persisting, she perceived that her foot trembled. The tremor remained limited to the left inferior extremity until 1876, at which time the hand on the same side was also affected. At the present time the tumour is well marked in both extremities on the left side, and is beginning to pronounce itself in those of the right side also. F. in other respects presents all the characteristic symptoms of Parkinson's disease; immobility of features, stiffness of neck, inclination of the trunk forward, tendency to propulsion and retropulsion.

T., aged 72, for the past four years has presented the classic symptoms of paralysis agitans, limited to the right side. Contrary to the rule, she has tremor of the tongue and also of the lower jaw. This tremor commenced last September under the following circumstances. On the 2d September, while yawning, T. dislocated her lower jaw; the reduction was made immediately without difficulty. From this time the jaw began to tremble, and the saliva commenced to flow involuntarily from her mouth. These observations require no comment.—*London Med. Record*, June 15, 1878.

—

A Complex and Exceptional Neurosis.

Dr. BERTHIER relates the following case in the *Annales Médico-Psychologiques*, September, 1877. The patient was a young girl, aged 13, of a scrofulous tendency; a very timid child, who had not been able to speak until she was five years of age. Her father had suffered from nocturnal somnambulism, and her maternal grandfather from paralysis. When about 13 years of age she had an attack of vomiting, with gastric pain, but no head symptoms. After two months the complications which had supervened led to Dr. Berthier being called in consultation. The patient suffered then from general delirium with hallucinations; she was excited, trembling and gesticulating, her body was in a sweat, the pupils were dilated, the pulse quick and strong. Tactile sensibility was equally distributed. The urine was abundant and limpid, the bowels constipated. She had never menstruated. She did not seem to see Dr. Berthier.

I left, says Dr. Berthier, and visited her again in an hour. She then recognized me from time to time, and again seemed not to see me, she wished me good day, and slowly became able to converse. Sometimes she saw me, at other times she seemed blind; sometimes she heard what I said and smiled, at others she remained deaf to me. Her skin was anæsthetic on one side of the body, and on the other was excessively sensitive. Again she did not seem to have the full power of the senses of sight and hearing. Thus she could read from a newspaper, but failed to see the hand which held it; she heard the songs of birds, but did not distinguish our voices. If the curtains were closed and the room darkened, she was able to see a pin on the table, but failed to distinguish us at present. I seated myself by the bed, and this child, generally so timid, was quite possessed, and chattered to herself constantly, using the words *pouff* and *conseil*, the first to indicate herself and the second other persons. Thus she recounted what "*Conseil*" Berthier thought of her state, how many visits "*Conseil*" curé had paid her, how good "*Conseil*" grandmamma was to her. She turned over the pages of an album, and criticized the portraits with much justice and some malice, and although ordinarily thought to be dull and not very intelli-

gent, she read one of La Fontaine's fables in a spirited manner and with correct accent. She also declaimed from Racine with an art and a diction worthy of a first-rate actor. I proposed a game of chess; she accepted, and played very well, but quite as though she were alone and her adversary invisible. Then quite suddenly, after this state had lasted several hours, she uttered a cry, placed her hand on her heart, shed tears, looked around her, asked where she was, and who had brought her there. She knew nothing of what had taken place, and seemed as one awakened from a dreamless sleep. I have been present during many of these attacks; I have also seen her in a true somnambulistic state, during which she has cooked, put the room in order, and hung up a clock against the wall without stumbling or hurting herself in any way.

I have seen her take up my hat, observe the ventilator, and exclaim, "What a strange idea that *Conseil* Berthier should bore a hole in his hat," and, laughing loudly, "It is his hat; I see his initials; I will ask him the use of it when he comes." All the time I was standing by the bed, and she did not perceive me. Once we held a long conversation by the aid of a slate; she read what I wrote, but would not admit that the writing was done by me. Sometimes this singular blindness would give place to hallucination. At another time she could only see persons as being covered by a black cloud, so that she could not recognize them; and if asked who questioned her she attempted to recognize them by putting her hand on their face, hair, clothes, etc., after the manner of a blind person. The transition from these states, to that of the normal life was very rapid, and could not be predicted by more than a few moments. She complained of a pain in the præcordial region when about to return to the normal state, and the sudden appearance of the words *pouff* and *conseil* in her conversation indicated the presence of the abnormal state.

In addition to these symptoms the feet were often paralyzed, the appetite *nil*, the sleep light, the pulse very irregular, the body emaciated, face pale, and there was a febrile brightness of the eyes. One morning she was found to be menstruating for the first time, and two days after this the somnambulism had ceased, but was replaced for a time by an embarrassment of speech with an impossibility of pronouncing certain words. She was removed to the country for change and became much better, although she suffered two or three relapses after great emotion excited by visits to Paris.

Dr. Berthier remarks that he has never met with any case similar to this. The remarkable fact in the case is the partial way in which the senses were exercised, taking cognizance only of portions of objects, sounds, etc. The rapid alterations from the normal to the morbid state, and the complete unconsciousness of what had taken place during the morbid condition, are also extraordinary phenomena. The difficulties attendant upon puberty in a young girl of slow growth, and under the domination of hereditary nervous influences, together with the almost total disappearance of the symptoms upon the establishment of menstruation, are perhaps sufficient to establish a connection between the phenomena; Dr. Berthier will not hazard any hypothesis upon a single case of so complex a character.—*London Med. Record*, June 15, 1878.

—

On Cerebellar Disease.

The conclusions arrived at in this paper (*Berliner Klinische Wochenschrift*, April 15, 1878) are based upon an analysis of about 250 recorded cases, besides the personal observations of Professor NOTHNAGEL himself.

Sometimes disease of the cerebellum causes no symptoms during life which

could indicate any brain-lesion, even though an extensive destruction of cerebellar tissue exist. Some authors have concluded that cerebellar disease, as such, never gives rise to any symptoms, but that those which have been observed in some cases are to be attributed to functional disturbance of neighbouring parts This inference is wrong. The nature of the morbid process has little to do with the presence or absence of symptoms; apoplexy, softening, abscess, tubercle, other tumours or atrophy may, under certain circumstances, exist in the cerebellum without producing symptoms. The area of issue involved has, within certain limits, no noticeable influence; tumours of the size of a walnut, or larger, may remain "latent." It is the situation of the lesion which exercises the greatest influence over the production of symptoms; *disease can only exist without symptoms when localized in one hemisphere*, and not influencing, by pressure or otherwise, surrounding parts. Cases are plentiful in which disease of a cerebellar hemisphere has been accompanied by marked symptoms; yet the author believes that an analysis of them justifies his opinion that in all of them the symptoms were caused by the influence of the lesion upon neighbouring parts of the brain. The following proposition is held to be in accordance with the facts. *A loss of substance in one hemisphere of the cerebellum causes no symptom of disease*, or at any rate none which is not recognizable in the present state of our knowledge.

As the result of a series of experiments, the author found that *the destruction of one or even both cerebellar hemispheres in the rabbit causes no symptoms of depriration* (*Ausfallssymptome*). (Virchow's *Archiv*, 68 Bd.) This does not for one moment involve the supposition that the hemispheres of the cerebellum are superfluous organs without function; it is only maintained that the lesion of one hemisphere causes no symptom which is at present recognizable, no disturbance of motor or sensory function nor of the nerves of special sense.

Several authors, and most recently Otto (*Arch. für Psychiatrie und Nervenkranh.*, Bd. iv. and vi.), have expressed the opinion that the cerebellum stands in a certain relation to the psychic functions; it has been held to be the seat of memory or of the emotions. Otto comes to the conclusion that it acts as a regulator of the will.

It is probable that the solution of the question as to the true functions of the hemispheres of the lesser brain will only be reached through observations on the human species, in which they are most largely developed. Of all pathological processes, atrophy seems to be the best fitted for these observations, as it may affect both hemispheres in equal degrees, and to a considerable extent, without affecting neighbouring parts of the brain. On looking through the recorded cases of this kind it is found that, in addition to the so-called disturbances of co-ordination, mental symptoms are generally described.

Supported by these observations, and by the fact of the increase in size of the cerebellar hemispheres observed in lower animals the more nearly they approach to man, Professor Nothnagel is inclined to think that the hemispheres of the lesser brain are in some relation with the psychic processes. The state of our knowledge does not at present, however, justify even a supposition as to the nature of this connection. It must not be forgotten that, in some cases of bilateral atrophy of the hemispheres, the intellect has been reported as normal.

From the above considerations, it may be laid down that *local lesions which in their action are limited to one cerebellar hemisphere cannot be diagnosed.*

Excluding the cases which have presented no symptoms, it is found that in cerebellar disease the most various symptoms have been noted, the great majority of which are unessential, or only indirectly due to the disease. Of great significance, however, are the disturbances of co-ordination and giddiness. After a careful consideration of all published cases, Nothnagel feels justified in stating

that *disturbances of co-ordination only occur when the median lobe (vermiform processes) is directly or indirectly affected by the disease.*

Only three cases have been found by the author in which the median lobe was really or apparently affected, and yet in which no inco-ordination was observed: they are the following: 1. Crisp, *Transactions of the Pathological Society*, vol. xxiii.; 2. Hughlings Jackson, *Medical Times and Gazette*, August 1, 1877; 3. Gintrac, *Traité des Maladies de l'Appareil Nerveux*, 1871, Bd. iv. Reasons are given at length by the author for considering that none of these cases affect the validity of the above proposition. Observations on cases (tuberculosis, etc.) occurring in very young children cannot be allowed to have much weight in this matter, as disturbances of gait cannot be noted with any degree of accuracy in them.

It cannot yet be determined what part or parts of the median lobe must be affected in order to give rise to disturbances of co-ordination.

Inco-ordination has been noted as occurring in experiments made for the purpose of studying the functions of the cerebellum, not only in dogs and cats, but also in rabbits, guinea-pigs, and especially birds (Flourens). The cerebellar hemispheres are known to be less developed in the animal series the further they are removed from man; in rodents, the median lobe is very large compared with the lateral lobes, and the whole cerebellum of birds corresponds only to the median lobe in mammals. Therefore experiments upon the cerebellum of birds, together with their results, must be considered as having reference only to the median lobe of the human cerebellum.

Among diseases of the lateral lobes of the lesser brain it is found that tumours most frequently give rise to motor disturbances, owing to the pressure they exercise upon the median lobe. It may easily be understood why recent hemorrhages do not cause these symptoms, for the patients either die comatose, or exhibit a series of other symptoms which prevent them from walking at all.

Dr. Nothnagel now proceeds to discuss several points connected with cerebellar ataxy. In the majority of fully developed cases there should be little difficulty in distinguishing between the gait of a tabic patient, and that of a person suffering from cerebellar disease. There are a number of cases, however, in which the distinctive features are less evident; this occurs most often in patients with cerebellar disease who present symptoms resembling those of tabes dorsalis. The gait of a person suffering from cerebellar ataxy is very similar to that of a drunken man. One of Nothnagel's patients has several times been locked up by the police as drunk, owing to his tabic gait.

It has been believed that cerebellar disease causes a special tendency to fall either backwards or forwards; the author shows that this symptom is oftener absent than not, and that some patients have a peculiar tendency to fall towards the right or the left. It would appear that this tendency to fall is usually in the direction in which the cerebellar lesion is situated; but many decided exceptions to this are on record, and it is impossible at present to substantiate any proposition on this part of the subject. The author's view is that a tendency to fall always in one particular direction is to be observed when either of the middle peduncles of the cerebellum is affected by disease. In many cases the uncertainty of gait is increased by being in the dark or by closing the eyes, while some patients find that this in no way affects them. The movements of the legs are, as a rule, perfectly well performed when the patient lies on his back in bed, the muscular sense seems then also to be unaffected; there are, however, exceptions to this. It is remarkable that in many cases, though motor disturbances of the legs and trunk are very marked, the upper extremities remain quite unaffected; no explanation of this is offered. The author promises before long to publish a

monograph in which will be found full details of the cases, experiments, etc., which have led him to the conclusions given above.—*London Medical Record*, June 15, 1878.

—

Paraplegia from Cold.

In a paper on *Paraplegia a frigore* in the *Hospitals-Tidende*, second series, Band iv. 1877, Dr. LANGE says that he does not mean by the term those chronic spinal paralyses which may be produced by the frequently repeated action of cold and moisture, but those which arise from a single powerful influence, which may be acute in their development, and, as a rule, reach their maximum intensity in an early stage. Nor does he include the cases of spinal paralysis following a cold, which from the first are dependent on a well-marked myelitic process, either acute softening or abscess. The affections which he describes are at first not dependent on changes in the spinal cord, though such may occur at a later period. The course of the malady, according to the author's experience, is as follows. A short time, generally a day or two after exposure to the influence of cold, there is weakness in the legs, but not so great as to prevent walking. There is no disturbance of urination or of defecation. Simultaneously with or before the paresis there may be pain or perverted sensations in the lower limbs and back; there may also be anæsthesia or hyperæsthesia. The general health is good; there is no spinal pain nor tenderness. The disorder generally remains at the same point about a fortnight. Under appropriate regimen and treatment it then begins to improve, and the patient recovers after an interval of two or three months. During convalescence, and for some time afterwards, over-exertion, or the renewed influence of cold, will easily cause a relapse, which, as a rule, is only temporary. Sometimes the arms also become affected, or the paresis increases, and will not yield to treatment, indicating the presence of more profound changes of a myelitic character in the spinal cord. With regard to the pathology of this affection, the author considers that, if it be not from the first an inflammation, it is a change which may be developed into inflammation, perhaps a hyperæmia excited by a peripheral ischæmia. The prognosis is good when the patient can be kept in favourable circumstances. In addition, Dr. Lange recommends in quite recent cases (which none of his were) local blood-letting, afterwards douches along the spinal column, and the free application of tincture of iodine. As internal remedies, he uses iodide of potassium, nitrate of silver, or ergot.—*Lond. Med. Record*, June 15, 1878.

—

Jaborandi in Obstinate Hiccough.

Dr. ORTILLE, of Lille, relates (*Bull. de Thérapeutique*, May 15) a case of most obstinate hiccough in which he had tried a great variety of means, including electricity and hypodermic morphia injections—the hiccough even continuing during the sleep caused by this last. He then tried the hydrochlorate of pilocarpin, on account of its action on the phrenic nerve. A hypodermic injection of two centigrammes and a half was inserted with almost immediate effect, so that in a quarter of an hour the patient was bathed in sweat, salivation was established, and the hiccough disappeared, never to return.—*Med. Times and Gaz.*, June 8, 1878.

—

The Cure of Sciatica by Phosphorus.

Dr. VOLQUARDSEN reports, in Schmidt's *Dictionary* and the *Pesth Medico-Chirurg. Presse*, No. 39, 1877, a case of sciatica, which lasted for two years, and defied all treatment. He then arrived at the idea of trying the internal use of phosphorus, which he prescribed in doses of fifteen milligrammes (about one-fourth

of a grain) three times a day. Three days sufficed to obtain a marked improvement, and three weeks brought a complete cure.—*Lond. Med. Record*, June 15, 1878.

—

On Trophic Disturbances.

M. Brown-Sequard (*Société de Biologie*, 27 Avril) has observed, in many guinea-pigs whose sciatic nerves he had divided, various phenomena hitherto not recorded; extreme agitation, cries, staggering, temporary cataleptic rigidity; besides, in all, the characters of spinal epilepsy were very accentuated and persisted, while the first symptoms, which might be attributed to a spinal meningitis, disappeared more or less rapidly. In one of these animals, the paw of the side opposite to the lesion was still at that time the seat of a notable atrophy; whilst that of the side on which the nerve was cut was intact. This fact pleads against the accepted theory of trophic disturbance. Moreover, M. Brown-Séquard has for a long time maintained that the so-called trophic disturbances are often due to the animal biting its paw in the convulsive attacks. M. Laborde objected to this view, and related a case in which this occurred to a rabbit, although every precaution was taken to prevent it from biting itself.—*London Medical Record*, June 15, 1878.

—

On the Pathology of Muscular Atrophy.

Dr. Landouzy, in a remarkable article in the *Revue Mensuelle*, Jan. 1878, points out that, in most cases of secondary amyotrophy, there may at the same time be observed a trophic affection of the integuments superposed on the atrophied muscles; the conditions observed being a notable thickening of the cellular tissue adherent to the skin, in such wise that the tegumentary folds formed by pinching it up above the atrophied muscles, very often present a thickness double that of the normal. This tegumentary thickening, corresponding to the regions attacked by muscular emaciation, appears to exist—*a*, habitually in deuteropathic amyotrophy; *b*, rarely in amyotrophy of the type described by Aran and Duchenne; *c*, in a variable degree in the atrophy of infantile paralysis. This subcutaneous fact it is important to note; clinically, because it lessens and marks the appearance of muscular atrophy; because, in certain cases of difficult diagnosis, it may serve to determine the variety of atrophy; from the point of view of physiological pathology, because it seems to present itself with the character of a true trophic disorder, not being found in the cases of hysterical patients condemned to prolonged immobility by hysterical hemiplegia or paraplegia, any more than in patients suffering from progressive amyotrophy.—*London Medical Record*, May 15, 1878.

—

On Paralytic Disorders of the Voice in Phthisis.

Dr. Kittler has a paper on the above subject in the *Aerztliches Intelligenz-blatt* for May 28. He observes that, since the introduction of the laryngoscope, paralytic affections of the laryngeal nerves and muscles have assumed an important position, so that many cases of hoarseness, aphonia, etc., formerly attributed to anatomical lesions, are now shown to be purely paralytic. The present paper considers mainly the forms of vocal paresis and paralysis attending phthisis. These may either precede the lung disease, or may develop themselves during its progress.

In the former case, vocal paralysis manifests itself chiefly in functional weakness of the organ, want of clearness, and loss of voice on slight exertion, as speaking or singing, also hoarseness after a slight cold. This condition of things,

termed by Gerhardt (Virchow's *Archiv.*, vol. xxvii. pp. 68 and 296) atony of the vocal cords, may precede phthisis for months, and even years. The results of laryngoscopic examination in cases of this kind are various. Sometimes they are almost negative; at other times, especially after a continued effort of the voice, there is some injection and swelling of the vocal cords, or of the arytenoid mucous membrane. Sometimes, again, a highly anæmic condition of the mucous membrane is all that can be discerned; and, lastly, in some cases the impairment of the voice can be shown to be due to diminished mobility of the cords and defective closure of the rima glottidis. The grave import of these apparently insignificant changes is only indicated by a history of phthisis in one or both parents. The true nature of a case of vocal atony, hitherto attributed to over-exertion of the voice, is often revealed by the sudden accession of hæmoptysis or colliquative sweating, indicating the latent pulmonary disease. On the other hand, we cannot, in the absence of a history of phthisis, regard vocal atony, even of the most obstinate kind, as seen in singers, actors, etc., as a forerunner of phthisis.

Vocal paralysis, occurring in the progress of phthisis, may be of two kinds—either combined with lesion of the mucous membrane or with the mucous membrane intact. The most frequent sources of the former are catarrh and ulceration. Although inflammatory swelling of the mucous membrane is in itself sufficient to produce intense hoarseness, yet in these cases we must consider the impairment of the voice due rather to a paralysis of the laryngeal muscles, in consequence of serous infiltration of the muscular fibres, than to the catarrhal affection, which is often indeed very slight. The paralysis is mostly double, and affects chiefly the muscles that close the glottis, and those that regulate the tension of the cords. The site of ulceration, when this is present, has considerable influence on the form of paralysis; thus ulceration of the posterior wall usually impairs the action of the transverse arytenoid muscle. Paralysis of the muscles that open the glottis is very rare in cases of phthisis.

Paralysis of the vocal apparatus, without concomitant lesion of the mucous membrane, may also be either double or unilateral, and may be considered functional. When occurring in tuberculosis, as also in chlorosis, it is probably due to the deficiency of red corpuscles in the blood, and a consequent impaired nutrition of the brain and the laryngeal nerves; or it may also be due to reflex irritation of the peripheral fibres of the vagus, either in the infiltrated lung-tissue or on the surface of the almost always adherent pleura. Fränkel (Virchow's *Archiv.* vol. lxi. p. 261) has demonstrated degenerative changes in the laryngeal muscles, which throw considerable light on the nature of phthisical atony of the vocal cords. The primitive fibrillæ become wasted and more or less detached from the investing sarcolemma, or they may disappear in places almost entirely, leaving only empty sarcolemma tubes. The investing perimysium may also undergo change, either through excessive growth of its connective tissue or increase of its cellular element. This functional paralysis in phthisis most frequently affects the tensor muscles of the glottis, also the closers and the muscles attached to the posterior wall, and is often associated with hyperæsthesia of the mucous membrane and soft parts surrounding the larynx.

More rare than the above forms, is paralysis induced by pressure on the recurrent laryngeal nerve, caused by pleuritic exudation, by cicatrices, or by degenerated bronchial glands. Gerhardt estimates one case of paralysis of the vocal cords to twelve of ulceration; and Ziemssen regards this as even too high. When due to impaired nervous function, the affection is mostly right-sided, though cases on the left side have been observed, while paralysis of both recurrents is exceedingly rare.

Dr. Kittler appends two illustrative cases—one a case of complete paralysis of

the right recurrent and paresis on the left side, due to pressure of an aneurism of the innominate and aorta; the other a case of double paralysis of the recurrent nerve, in a strumous subject with goitre.—*London Med. Record*, June 15, 1878.

Physical Diagnosis of Pleural Exudations.

In a paper on the above subject (*Berliner Klinische Wochenshrift*, March 25) Dr. ROSENBACH, of Breslau, observes that the changes in the percussion-sound of the thorax caused by the respiratory movements and by changes in the position of the patient, though of considerable moment, have as yet been insufficiently attended to, although a certain influence which these and other similar circumstances exercise on the result of the percussion has not been unnoticed. The tendency has been to rather exaggerate the diagnostic value of these purely external conditions; and Dr. Rosenbach holds that the changes, both as regards pitch and intensity of the percussion-sound as caused by alterations in position, and by respiratory movements, refer to the thoracic walls rather than to the lungs, and that differences in the tension of the lungs do not explain the variety of the percussion-sounds during respiration. Thus, the increased resonance of the thorax in the sitting posture is due not so much to changes in the lung as to the increased tension of the thoracic wall; hence, the higher pitch of the sound in the upright, compared with the recumbent, posture, can furnish no evidence as to the size and situation of pulmonary cavities. The same applies to alteration in the sound when the mouth is open, and when it is closed. Indeed, it is possible to almost efface the tympanic sound usually given by caverns, or by the abdomen, by means of a full inspiration, or by increasing the tension of the abdominal muscles. It is, therefore, evident that, in comparing by percussion two symmetrical portions of the thorax, as, for example, the clavicular regions, care must be taken to do so during precisely the same stage of respiration. If we percuss one side during inspiration, and the other during expiration, the sound in the latter case will usually be lower and louder. If the apex of the lung give a distinctly louder sound during inspiration, we may almost certainly infer that the parenchyma is neither consolidated nor shrunken. In cases of pleuritic exudation we may, in like manner, conclude that a full sound during inspiration indicates that the lung tissue is still capable of inflation.

Dr. Rosenbach's observations refer principally to the changes in the percussion and auscultation sounds, induced in cases of pleuritic exudation by a continued erect position, and by deep inspirations, especially in the posterior portions of the thorax. Five cases came under observation. There was dulness extending to the spine or the angle of the scapula in all cases, rapidly diminishing laterally, but increasing downwards, and with bronchial breathing over the area of dulness of various intensity. All cases, excepting one, were under observation in the first week of the disease, and all recovered within four weeks. The first case related was that of a young man, with well-marked symptoms of pleurisy. In the morning (during the second week) dulness extended posteriorly to the spine of the scapula on the left side. Below the spine of the scapula, breathing was bronchial; above, uncertain. In the afternoon of the same day, the dulness extended with only moderate intensity to the angle of the scapula, while over it the breathing was purely vesicular; further down, there was only feeble vesicular breathing, and bronchial breathing existed only over the lowest portion of the lung. This remarkable change could scarcely be attributed to resorption. On the next morning, and after a good night, the physical condition was precisely the same as on the morning before. The change in question was, therefore, evidently due to the difference in position, and to the kind of breathing. It was

also ascertained that on the previous afternoon the patient had, for several hours, walked about his apartment. When this was now repeated, the same changes occurred as on the afternoon before. Subsequently, similar changes, and of the same nature, were observed in the other cases. In one case, three distinct zones of sound could be distinguished—1, a zone of normal sound, extending to the lower (*sic*, superior?) angle of the scapula; 2, a zone of rather loud tympanitic sound, about an inch wide, and gradually passing into the lowermost region of absolute dulness. Similarly, while loud and bronchial respiration had prevailed about the angle of the scapula, vesicular breathing was now heard over the first two regions, while feeble bronchial breathing existed over only the lowest, dull region. These changes in the result of percussion and auscultation could be produced at will during the latter half of the second week, by permitting the patients free exercise, or confining them for a certain time to the recumbent position in bed. It is also worthy of remark, that in all these patients, on their assuming the erect posture, the upper and posterior limits of dulness rapidly diminished towards the sides; a matter of considerable importance in explaining the changes in the sound.

On summing up these observations we obtain the following interesting results. In average sized pleuritic serous exudations in which the area of dulness posteriorly diminishes rapidly laterally, and in which inspiration is distinctly accompanied by increased resonance, an entire change in the results of auscultation and percussion can be produced by a deep inspiration or by moderate exercise in the erect position. This may proceed from two causes; either that the dulness is produced by a viscid dense exudation, holding in suspension morbid products which may be deposited on the folds of the pleuræ; or that the lower area of dulness is due to fluid exudation, the upper to collapsed portions of the lungs. The latter is the more probable hypothesis, and the atelectasis of the lung occurs, probably, through the pressure exercised on the lung in the recumbent posture. When the lung is partially expanded by a forced and deep inspiration, the resonance is proportionately increased, and the breathing becomes at the same time more vesicular in character, while at the lower portions, where, owing to the presence of the fluid exudation, the lung tissue cannot expand, the respiration continues more or less bronchial, and the dulness also remains. In estimating the amount of exudation it is, therefore, important to cause the patient first to inspire deeply several times, so as to expand the previously collapsed lung portions; so also, if it be doubtful whether a case is one of simple pleurisy, or whether this is complicated with pneumonia, and in the absence of the characteristic signs of pneumonia, a change in the limits of dulness and in the respiratory sound, when the patient sits up, would show it to be a case of collapsed lung only. Lastly, as to treatment, a methodical exercising of the lungs, by frequent inspirations, would materially change the condition of collapsed portions of the lung-tissue, and would either prevent the formation of exudations or aid in their removal by absorption.—*London Medical Record*, June 15, 1878.

Immobilization of the Thorax in Pleurisy.

Dr. PERROUD, of Lyons (*Lyon Médical*), confirms from his own practice the value of Dr. F. T. Roberts's method of immobilizing the walls of the chest in pleurisy by bands of diachlyon, strengthened if necessary by a plaster-bandage. It is especially indicated in pleurisy and in pneumonia at the outset, and where the element of pain is prominent. This treatment was employed in a dozen cases of children attacked with pleuritic effusion of from four to six days' date, and a moderate quantity of fluid was followed by speedy improvement, the fluid being ab-

sorbed in three or four days. Niemeyer has suggested that blisters may act in pleurisy simply by inducing immobility of the chest-wall. Perroud observes that Dr. Roberts's method is more direct and safer.—*London Med. Record*, May 15, 1878.

—

Obliterative Endarteritis.

The almost universal part played in pathology by obliterative arteritis, its mode of origin and real nature, are, or have been until lately, ignored by British pathologists, or, if seen in some cases, they have been totally misunderstood. The facts are not new, but they are not recognized, perhaps because workers at histology limit themselves too much to a narrow field of special observation without preparing themselves by wide study of changes as they occur in all the tissues of the body, in inflammations, in new formations and tumours of all kinds. Apparently, MM. Cornil and Ranvier were the first to describe this change. They say, "Dans les plaies, dans les ulcères, et dans les phlegmons chroniques, il n'est pas rare de rencontrer, sur les coupes minces faites pour l'examen microscopique, des artères dont la tunique intime a végété de manière à oblitérer complétement le calibre du vaisseau" (*Manuel d'Histologie Path.*, pp. 554–5). But we owe to Friedländer and Köster the first precise descriptions of the condition, their observations having been published almost simultaneously at the beginning of 1876. (A paper on the subject, by Dr. Friedländer, was noticed in the *British Medical Journal* of March 18, 1876.) They showed that in all growths, whether inflammatory, tubercular, syphilitic, sarcomatous, or other, it was not uncommon to find the lumina of the vessels narrowed by a small-celled circumscribing or laterally placed growth of embryonic tissue, which was accompanied by a similar infiltration of the outer coat in a more advanced state of organization, and by a less degree of affection of the middle coat, which tended to lose its distinctive muscular character and become fibrous. They compared these changes to those which take place in the so-called organization of thrombus, and held that the growth from the inner membrane was formed from elements which had migrated from the vasa vasorum. These observations were all the more opportune, as in these recent years we have had two forms of obliterative arteritis described, to each of which specific characters have been assigned and considerable pathological significance has been claimed for them. We refer to the arterio-capillary fibrosis of Gull and Sutton, and the syphilitic arteritis of Heubner. It is true that, so far as the renal arterioles were concerned, the facts brought forward by Sir W. Gull and Dr. Sutton were not new, but our want of knowledge at that time as to the true nature of the process made them assign to it an importance which it by no means deserves. If they had known that the coats of the vessels universally take part in the surrounding connective tissue changes, they would not have ventured to find in their arterial thickenings evidence of a general primary disease of the bloodvessels. Other observers have failed to confirm their assertions that these changes are further distributed than surrounding processes fully account for. Most of the cases of so-called syphilitic arteritis also come under the same category of secondary processes presenting no anatomical distinctive features. The changes described by Oedmansson in the umbilical vessels, and Fränkel in the placenta of syphilitic fœtuses, are now known to present nothing characteristic; and identical appearances have been described by Mr. Lawson Tait in non-syphilitic placentæ (*Transactions of the Obstetrical Society*, vol. xvii.). The same remark applies to the vessels figured by Dr. Batty Tuke (*Journal of Mental Science*, October, 1874) as found in the brain of an insane patient who had had syphilis; while Friedländer goes so far as to say that the syphilitic arteritis of Heubner is "a typical obliterative arteritis, which presents

no specific syphilitic peculiarities whatever, and, moreover, is in no way etiologically limited to syphilis alone."

The syphilitic arteritis of Heubner differs in one important feature from all the other affections we have alluded to in being an independent affection of the vascular system, that is, not necessarily dependent upon gummatous growth around. It is true that there is no difference between the changes that occur in the middle cerebral artery, for instance, which lies imbedded in a gummatous mass involving neighbouring parts, and that which is not so surrounded; but it is not the less a striking feature, that this disease may, and does frequently, arise primarily in the coats of the vessel, and shows no tendency to involve the surrounding parts, as in the case related below. Heubner considered it a "gummatous" affection of the vessel, originating in the intima, due to irritation by the syphilitic virus in the blood and growing by proliferation of the epithelioid lining of the vessel, and secondarily giving rise to changes in the muscular and outer coats from migration of cells out of the vasa vasorum.

Dr. PAUL BAUMGARTEN, of Königsberg, already known by his contribution to our knowledge of the process of organization of thrombi, has recently published some further observations (Virchow's *Archiv*, Band lxxiii. Heft 1) on syphilitic arteritis, and endeavours to settle the questions at issue between Heubner and Friedländer. On the general subject of endarteritis, he is completely at one with Friedländer, except as to the part played by the epithelioid lining; he finds that, in endarteritis artificially produced by ligature, the epithelioid lining first undergoes proliferation, and that the changes in the outer coats occur later and by migration of cells from the vasa vasorum. He relates a case of primary syphilitic arteritis in a man who died of general paralysis of syphilis, and in whose brain the arteries at the base were "generally thickened and white coloured, both middle cerebral arteries being changed into thick grayish-white cords, no basal meningitis, and indeed no affection of the basis cerebri et cranii." Microscopical examination of these vessels showed an indifferent non-vascular embryonic growth in the lumen; and in the adventitia a vascular, partly caseating, round-celled formation, containing giant cells, and encroaching upon the middle coat so far as in one case to be continuous with the growth in the intima. He considers the periarterial formation to present the characters of gumma, but the internal growth he regards as a non-specific indifferent production; so that he agrees so far with Heubner as to admit the disease to be gummatous and to deserve a specific title; but so far as the endarteritis is concerned, he considers it a non-specific change in a strictly anatomical sense. Reasoning from the analogy of his observations on artificial arteritis, he is quite willing to accept Heubner's statement that the process commences by proliferation of the epithelioid lining, and that the changes in the outer coats are due to the migration of cells out of the vasa vasorum; but according to him, it is this latter growth only which takes on the characters of "gumma," the internal new formation retaining its indifferent character, and behaving throughout like ordinary granulation tissue developed in the same situation under non-specific influences. This view is not to be confounded with that held by some English observers, especially Dr. Davidson, of Liverpool, who contends that the periarterial gummatous formation precedes the obliterative process, which latter, according to him, takes place by the organization of a thrombus formed by the partial occlusion of the vessel through the pressure of the external growth—a mode of production already long ago put forward by M. Ranvier as that in which tubercular obliteration of the bloodvessels is effected.—*British Med. Journal*, June 29, 1878.

Case of Embolism of the Pulmonary Artery.

Dr. O. V. PETERSSON relates the following case in the thirteenth volume of the *Upsala Läkareförenings Forhändlingar* (abstract in *Nordiskt Medicin. Arkiv*, Band x., Häft i.)

A woman, aged 36, had a fall in the beginning of March, 1877. In consequence of this, besides a slight excoriation of the left hand, and pain in the left leg on walking and standing, she had a fixed pain in the left groin. Along the whole course of the saphena vein of the same limb considerable varices were formed, the skin over the subinguinal fossa was red and tender, and at this part a hard cord was felt lying deeply. Mercurial ointment was rubbed into the affected parts, and warm moist applications were used; rest and morphia were prescribed. After some days, a hard, knotty mass, red and painful, was observed at the inner side of the knee and leg. On March 20th the patient, in spite of prohibition, walked across her room to a sofa. The pain in the leg thereupon became violent; notwithstanding, the patient walked back to her bed. She had scarcely time to lie down before she was attacked with violent dyspnœa and oppression in the chest, and became unconscious. Her face immediately became cyanotic; her respiration was stertorous; the pulse was scarcely perceptible, and she died thirty minutes after the commencement of the paroxysm.

At the *post-mortem* examination the left saphena vein, along nearly its whole course, was found to be the seat of saccular projections of greater or less size, which in the leg were filled with dark-red coagula, while in the thigh and in the fossa ovalis grayish-red thrombotic plugs were found. At the opening into the femoral vein was a dilatation of the size of a walnut, filled with a thrombus, a small portion of which extended into the femoral vein. A large branch of the right pulmonary artery was found to be completely blocked up by an embolon an inch long; externally it was reddish gray and firm, internally, dark red and of loose consistence. In the left lung the principal branch of the pulmonary artery was in like manner occluded by an embolon two inches long, loosely connected to the lining membrane of the artery, and of the same appearance and consistence as the other. The heart was externally loaded with fat, and its muscular tissue was lax and brittle. The subpericardial fat was prolonged between the muscular structure, and the tissue of the right ventricle presented fatty degeneration on microscopic examination.—*London Med. Record*, May 15, 1878.

Tubercle of Serous Membranes and so-called "Giant-cells."

At the meeting of the Société de Biologie on March 16, 1878 (*Gazette Médicale de Paris*), M. CORNIL made an interesting communication touching the nature of the giant-cell and its place in the pathology of tubercle. He described the appearances of the giant-cell when set free by agitating in dilute alcohol sections from tubercular pericarditis. Their substance is, M. Cornil remarked, homogeneous, containing fine granulations, which also penetrate into the fine processes proceeding from the body of the cell. On the addition of acetic acid, the cell becomes clear and swollen, its granules are effaced, and the nuclei become more clearly distinguishable. On treatment with picrocarmine, the substance of the giant-cell is rendered of an orange-yellow color, whilst the nuclei are tinged red. The nuclei are ovoid, more or less elongated, and often have an appearance of buds on their surface, sometimes undergoing division. They are placed near the surface of the cell, a layer coming into view on first focussing the surface of the cell, and a second layer appearing on deepening the lens so as to focus its under surface. The number of nuclei varies from two to thirty, according to the size of the cell.

Referring to some sections from a case of tubercular pericarditis shown by M. Merklen at the last meeting of the Society, M. Cornil observed that these sections showed the inflamed tissue to be very vascular, and that the capilluries were much dilated, and contained at certain points fibrinous coagula adherent to the inner surface of the vessel. The wall of the capillary thus affected was well defined, and the epithelioid cells undisturbed. But above and below the coagulum the lumen of the vessel was occupied by lymphatic cells, which were abundant also in the connective tissue around. In other vessels, red corpuscles were collected above and below the coagula. In many other points of the preparations there could be seen the "giant-cell," with its prolongations, surrounded also by epithelioid cells, swollen or proliferating; but the wall of the vessel was not in these cases so clear as in the preceding, being more obscured by the presence of numerous small lymphatic cells infiltrated all around it. Nevertheless, the form of the section was that of a dilated and filled vessel. In other parts, more voluminous giant-cells, or groups of such cells, surrounded by epithelioid elements, were seen. The isolated tubercles of the pia mater were composed of small grains of an embryonic tissue which developed around the bloodvessels. The wall of the vessel, its lymphatic sheath, and the cellular tissue around it, were infiltrated with lymphatic cells. The lumen of the vessel in the centre of the small granulation thus constituted was always filled by a fibrinous clot, and, a remarkable but easily verified fact, this vessel was always swollen and its cavity dilated at the point where it was obstructed by the coagulum. Many transverse sections of tuberculous pia mater showed the arterioles to be affected with a distinct endarteritis. And, at the point of the endarteritis, a part or a whole of the lumen of the vessel was occupied by a coagulation purely fibrinous or granular, with lymphatic or epithelioid cells entangled in its periphery. These leucocytes penetrated into any fissures on the surface of the coagulum; the coagula colored strongly with picrocarmine.

In the majority of instances, the wall of the vessel was infiltrated with small cells, its lymphatic sheath filled with leucocytes, and the meshes of the connective tissue of the pia mater around the vessels thus altered presented a beautiful fibrinous reticulum enclosing leucocytes. In the older portions, the tissue became caseous and more compact. But nowhere outside the vessels did one see anything which could be called a "giant-cell." The process of formation of "giant-cells" took place entirely, so far as the pia mater was concerned, in the interior of the vessel cavity.

M. Cornil described similar appearances to be observed in tubercular granulations in the peritoneum, and observed, in conclusion: "It seems to us that the foregoing facts sufficiently demonstrate the intra-vascular origin of 'giant-cells,' and that one may conceive them as having their origin in a special inflammation affecting a limited portion, and causing coagulation of fibrine. The accumulation of white globules and of some red corpuscles, the union and incorporation of the leucocytes into a fibrino-plastic mass, the nuclei of which hypertrophy, become ovoid and proliferated, and tumefaction of the epithelioid cells would be the phenomena observed in the interior of the vessels. The 'giant-cell' would have its origin in the coagulation of a fibrinous plasma, in which leucocytes have been entangled and blended, and would have proliferated in an unusual manner. Infiltration and softening of the vessel-wall, which after a time becomes no longer recognizable, and inflammation of the adjoining connective tissue where the nutritive juices accumulate, permit of considerable but short-lived nutritive activity to the cells in the centre of the little tubercular islets. We believe that we may consider the nest of the giant-cells and of the swollen cells as representing vessels

of which the parietes and contents are modified by the special inflammation of tuberculosis."

In the debate which followed upon M. Cornil's paper, M. Malassez, whilst confirming the facts observed, expressed himself as unable to admit that the giant-cells were mere obliterations of vessels more or less changed. Obliteration of vessels was common in tubercle, but its characters were so different from those of the giant-cell, that it was impossible to admit of any relationship between them. M. Malassez's objections were (1) an entire want of numerical relationship between the divided obliterated vessels and the giant-cells; (2) Although the giant-cells like the vessels were often rounded, they often also presented numerous fine processes which could not possibly correspond with any ramifications of the vessel; (3) The size of the giant-cells sometimes exceeded the limits of the vessels; (4) The material obliterating vessels showed a fibrinous reticulum with changed corpuscles in the centre; the giant-cell, on the other hand, did not show this reticulum, its nuclei differed from those of white-corpuscles, and the elements of the cell were living and did not degenerate; (5) The wall of the vessel, always recognizable in obliterations of any considerable size, was never to be found surrounding the giant-cell. M. Malassez regarded the giant-cell as a form common to a certain number of different kinds of anatomical elements in process of normal or morbid development. He conjectured that in tubercle the giant-cells were vaso-formative, and that the central degeneration of tubercle was in part due to the nontransformation of these vaso-formative cells into vessels. Instead of being sections of obliterated vessels, M. Malassez regarded these giant-cells as being very probably vaso-formative cells which have become arrested in their development into vessels.—*London Med. Record*, June 15, 1878.

—

Gastric Distension, complicating Intestinal Meteorism.

Professor GROSS, of Nancy (*Revue Médicale de l'Est*), describes the case of a woman, aged 68, for whom he performed kelotomy for strangulated hernia. Peritonitis followed, with extreme tympanites, hiccough, and ventral distension and hardness, but without vomiting. He introduced the œsophageal sound, and nearly ten pints of fluid flowed away. Improvement at once set in, and the patient recovered. He relates other facts, drawn from the practice of Kœberlé of Strasburg, in which the distension of the stomach complicated intestinal meteorism, and in which the effects of the latter were apparently aggravated by this complication; great relief followed the catheterization of the stomach, and the removal of the gas or fluids which distended it. He concludes that this is a point which clinically should not be overlooked; and it is probably worthy of more general attention than it has yet received.—*London Med. Record*, June 15, 1878.

—

Cases illustrating the Treatment of Bromide Rash with Arsenic.

The beneficial effect of arsenic on the bromide rash deserves to be more widely known than it appears to be, and the following cases reported by Dr. GOWERS (*Lancet*, June 15, 1878) illustrating it may be of some interest. They are briefly reported from the out-patient practice at the National Hospital for the Paralyzed and Epileptic:—

S. S., a man aged thirty-eight, had taken bromide of potassium certainly for five years, on account of fits, and during the whole of that time he had had a large amount of acne upon the face. In the summer of 1877, the face was covered with coalescent acne pustules, and presented a most repulsive appearance. The eruption was also abundant on the chest. The addition of a small quantity of

sulphur to each dose did a little good; the rash improved for a short time, but it soon got worse again. Sulphide of calcium was then tried, but with no further improvement, and it made him sick. The dose of bromide was then lessened from twenty to ten grains three times a day, and the acne lessened considerably, but the fits became worse, and on again increasing the bromide the acne became more abundant, and soon was as bad as ever. On Sept. 28, five drops of arsenical solution were given twice a day. In a fortnight all the spots of acne were gone from the face, and those on the chest had faded. The arsenic was continued for some time, and then reduced, and ultimately discontinued. The skin remained healthy for a time, but a month afterwards the face was covered with a fresh bromide rash, red elevations, with several points of suppuration in them. Many large spots of similar kind were on the back of the neck, chest, and arms. This eruption commenced a week after the discontinuance of the arsenic. It again disappeared when the arsenic was resumed.

A. E. W., a female aged twenty, epileptic since infancy, who had taken bromide of potassium for some months, without any rash, presented acne on the face and chest for the first time after bromide of ammonium had been substituted for bromide of potassium. The rash was of the form in which there is a large white centre containing fluid, and a narrow red circumference; and the spots were separate and confluent into larger patches. Most were on the forehead. Other spots were on the shoulders and back; there were none on the abdomen. Arsenic was added, and on March 4th the spots were much better; there were no fresh pustules, and the old ones were fading. On April 18 all spots were gone from the face and back, and only their scars remained.

A. C., a female aged twenty-four, who had suffered from epilepsy and scarlatina four years before, on Oct. 20, 1877, having taken bromide of potassium (twenty grains twice daily) for some years, presented a large number of acne spots upon the face, especially on the cheeks and temples, none being on the forehead; there were also many on the back and chest. Three drops of arsenical solution were added to each dose. On Nov. 3 there were no fresh spots, and the old ones were slowly fading. The only signs of recent spots were one or two minute vesicles on the cheeks. The improvement was as marked on the trunk as on the face.

W. H., a man aged twenty years, who had suffered from epilepsy for seven years, had taken bromide certainly for three years, and on the 8th of October, 1877, presented much acne upon the face, small pustules, and old scars of former spots; there were also a few spots on the trunk. He had been taking for four months thirty grains of bromide of ammonium each night. Three drops of arsenical solution were added. On Nov. 5 the spots of acne on the face were much better, but those on the trunk were not. The pustules gradually disappeared everywhere, and two months later the arsenic was omitted. A few weeks after the omission of the arsenic, the rash reappeared.

J. L., aged eighteen, epileptic for eight years, and known to have taken bromide for at least two months, presented on Feb. 26 many spots of acne on the face. Three drops of arsenical solution were added. On April 8 there were only a few old spots, and on April 29 none were to be seen, old or new.

E. H., a woman aged forty-one, who had suffered from fits for a year only, and had taken bromide (fifteen grains three times a day) for three months, presented first on Feb. 18 some spots of acne on the face, one or two large red prominences with a small white centre, and some smaller ones. Two drops of arsenical solution were added to each dose. On March 11 not a single spot of acne could be seen on the face except one small hard spot on one cheek.

S. D., a woman aged thirty-two, while taking bromide of ammonium, pre-

sented acne on face, arms, and shoulders, and small pustules without much redness around. Two drops of arsenical solution being added, in three weeks the spots on the face were much better, but those on the back were said to be about the same. The dose of arsenic was therefore increased to three drops, and in a few weeks the spots were all gone from both face and back. The arsenic was then omitted, and in a few weeks some spots reappeared.

L. S., a woman aged twenty-six, suffering from long-standing epilepsy, had for years been disfigured by continuous bromide rash, large suppurating pustules. No treatment had availed to lessen the eruption except discontinuance of bromide, but the rash recurred when the bromide was resumed. The addition to the bromide of two drops of arsenic removed every trace of the rash in the course of five or six weeks.

E. F. R., a young man aged twenty-eight, who had had fits for sixteen years, and had taken bromide for several years, presented, on March 21, many spots of acne on the face. Three drops of arsenic were added to the bromide of ammonium, of which he was taking twenty grains three times a day. In a fortnight the face was quite free from acne, but in three weeks, while still taking the arsenic, many fresh spots appeared, similar to the preceding ones. The dose of arsenic was then raised to five drops, and in a month the face was almost well.

E. W., a boy aged six, who had had fits for three years, presented a curious eruption, which seemed probably due to bromide, a month after he commenced attendance; the possibility that he had previously taken bromide could not be excluded. The skin on the back and left side of the chest was covered with a fine pustular rash, resembling closely minute miliaria, each minute white point having a fine red halo around it. Among these, on the nape of the neck, were several large pustules, with extensive red bases, like small boils. A drop of arsenical solution was added to each dose of the medicine, and, a fortnight later, the rash had almost disappeared. There were still some minute pustules on the side of the neck, but they had gone from the back and chest. The large pustules had subsided into the characteristic red swellings of bromide acne. Three weeks later both these had subsided, and only the faintest trace of the finer rash could be detected.

H. B., a boy aged seven, epileptic since two years of age, had taken bromide for about three months, when his face, on March 5, presented five or six spots, each about a quarter of an inch in diameter, almost covered with minute foci of suppuration. On some of the more advanced of these a crust had formed, occupying almost the whole of the raised red area, of which only a narrow ring showed around the crust. The latter was thin, and, at a distance, the spots looked very like those of psoriasis. One drop of arsenic was added to the ten grains of bromide of potassium which he was taking three times a day, and in a month the spots were well, only the red stains remaining.

A. S. F., a girl aged eleven, epileptic since six months old, and taking twenty grains of bromide of potassium twice a day, presented, on April 1st, many small spots of acne on the forehead and cheeks. Four drops of arsenic were added, and on May 28th every spot had disappeared.

Remarks.—It is surprising that in recent discussions on the subject, the occurrence of bromide rash was mentioned as a rarity. At the Queen-square Hospital, where, of course, bromide is largely given, the rash is common enough, and is frequently seen in most severe form, causing great disfigurement. Since, however, the value of arsenic in the affection has been known, an example of bad bromide rash has not been seen.

The common form of the rash is, as is well known, pustular, the red swelling being large and the point of suppuration small. As frequent, however, and more

so in the commencement of the rash, are small pustules with little redness, together with papules which do not always reach the stage of pustules. Occasionally large pustules are seen with extensive suppuration, either in very minute foci or in one or two large and superficial areas. It has been said that the white centres of the bromide pustules do not contain pus, but only caseous material. This is sometimes the case, but often there is true pus within them. Occasionally actual boils occur.

It is to be noted that the rash occurs equally with the bromides of potassium and sodium, and still more readily with bromide of ammonium. Some of the above cases illustrate this. The rash occasionally first shows itself when the ammonium salt has been substituted for an equal dose of one of the others. This may be due to the fact that the ammonium salt contains a larger quantity of bromine. The amount of eruption may be observed to vary with the amount of bromide given.

Many observers have noted the beneficial influence of arsenic, and these cases fully corroborate it. They show, moreover, that, irrespective of age, the dose of arsenic required to remove the rash varies in different cases, and the dose required does not always depend on the amount of rash. The dose which cured some cases only effected a slight improvement in others, which did not yield until a large dose had been given. They show that the arsenic affects the rash on the face more readily than that of the trunk. A dose of arsenic which removed the rash from the face had to be increased before that on the trunk disappeared.

The effect of arsenic only continues as long as it is given. Bromide still being administered, the rash returns when the arsenic is stopped. Several cases illustrate this, and illustrate also how rapidly the recurrence may take place.

Many other agents for the treatment of the rash have been tried, but none has been found of value comparable to that of arsenic. The external applications useful in ordinary acne are almost useless in the bromide rash. The internal administration of sulphur or sulphite of calcium has also little influence.

Surgery.

Impairment of Vision after Loss of Blood.

Under the above heading, Dr. C. HORSTMAN records (*Klinische Monatsblätter*, April, 1878) six cases which he had observed during the past year at Berlin, in which, after loss of blood in various ways, there had followed impairment, or loss of sight.

CASE I. A man, aged 40, vomited blood on one occasion during the year previous, and again about fourteen days before coming to the hospital, and three days afterwards noticed that his sight was failing him. On examination, his field of vision was found much diminished; and there were traces of optic neuritis. On subsequent examination, the visual defect was permanent, and the optic discs were unnaturally pale.

CASE II.—A man, aged 28, had suffered from painful digestion since childhood, and, for more than a year, had suffered from gastric pains. Then hæmatemesis occurred, and, seven days afterwards, he found that during several hours he was unable to distinguish light from darkness. This was followed by a gradual improvement, but in the end, his optic disc remained white and irregular in out-

line, and there was a permanent and considerable contraction of the visual field in each eye.

Case III.—A man, aged 44, very corpulent, suffered from an attack of typhoid fever, followed by severe intestinal hemorrhage. Eight days afterwards he found himself absolutely blind, unable to distinguish light from darkness; and, although his general health improved, he remained permanently amaurotic, with white and atrophied discs.

Case IV.—A young woman, aged 21, had severe hemorrhage after an abortion, and six days later, found herself quite blind: both optic nerves were seen to be swollen and indistinct, and there were extensive defects in the field of vision in each eye. Vision remained permanently impaired, especially in the left eye, her optic discs being pale, and the defects in the visual field remaining unchanged.

Case V.—A woman, aged 37, had given birth to five children in the course of seven years without accident of any kind; then followed an abortion and severe flooding. Seven days after this, she noticed her sight failing her, and, in a few hours, became absolutely blind; she never acquired even so much as perception of light. Both optic discs presented all the appearances of white atrophy.

Case VI.—A woman, aged 33, lost a great deal of blood after abortion. On the evening of the seventh day her sight failed her, her optic nerves were found to be swollen and indistinct, the retina around the disc in each eye was opaque, and, in the left eye, in the neighbourhood of the yellow spot, were one or two small hemorrhages. Ultimately, the case assumed the ordinary features of white atrophy of both nerves, and the patient remained permanently blind.

According to Leber (von Gräfe and Sämisch's *Handbuch*), loss of sight in both eyes is not uncommon after considerable loss of blood, especially after hæmatemesis and metrorrhagia. It generally occurs a few days after—three or four days—and not directly after the loss; and the same high authority speaks of the ophthalmoscopic appearances as being negative, or those of white atrophy only. Seigmund Fries (*Klinische Monatsblätter*, 1876) has collected thirty-nine cases of the same nature; in the majority of these both eyes were affected, and remained so permanently. The defect in vision was not complained of until some days had elapsed after the hemorrhage, and, in nearly every instance, the case assumed the typical features of white atrophy of the optic nerves.

From the complete absence of cerebral symptoms before and at the time of the hemorrhage, the explanation of this frequent occurrence of blindness is not altogether clear; but the recent observations of Schwalbe (Schulze's *Archiv*) upon the existence of lymph spaces between the two sheaths of the optic nerve, communicating with the subarachnoid spaces within the cranium, appear to furnish an explanation. Samelsohn and other writers are of opinion that, owing to the sudden hemorrhage, the total amount of blood within the cranium is materially lessened, its place is for the time taken by the fluid from the various lymph-spaces. On the bloodvessels becoming again fully supplied with blood, the lymph-spaces are over-distended, and also the sheath of the optic nerve; a condition of things which leads to pressure upon the optic nerve itself, and, in some instances, to the occurrence of that peculiar aspect of the optic disc, known as *stauungs-papille*, or choked disc.—*Lond. Med. Record*, June 15, 1878.

Glaucoma and Increased Tension of the Globe.

Dr. Fitzgerald, in a report on the Progress of Ophthalmology (*Dublin Journ. of Med. Science*, June, 1878), says: The past year will mark an epoch in the history of the progress of ophthalmology, for in it we see the first signs of dawn lighting up the horizon of a hitherto impenetrably dark region. We allude to the remarkable communications which have appeared upon the subject of glau-

coma. The exact nature and etiology of this disease has up to this proved one of the most difficult problems in the whole range of ophthalmology. We feel confident that its solution will be reached at no very distant date, but as yet we only discern the preliminary steps towards it. Consequently it appears advisable to postpone any lengthened account of the various investigations and experiments which have been undertaken with reference to this intricate subject, and in the present instance merely to indicate very briefly the general tendency of the conclusions hitherto arrived at. On one point there seems to be almost complete accord, as evidenced by the papers of Kniess[1] and Weber,[2] as well as by the opinions expressed at the Heidelberg meeting—namely, that the chief factor in the production of the disease is an interference with the "drainage system," if we may so term it, of the eye. This opinion is principally grounded upon the results of pathological investigations. Kniess insists that these investigations prove the important rôle which the obliteration of Fontana's canal plays in the production of the glaucomatous state; and Weber concludes that in all forms of glaucoma—the inflammatory and non-inflammatory as well as the primary and secondary—the drainage channels become narrowed and finally closed.

At the meeting of the Ophthalmological Society at Heidelberg, last year, Dr. Stilling[3] stated the results of some experiments he had made on ligaturing the optic nerve. At first this proceeding was invariably followed by neuro-paralytic symptoms. After five or ten days had elapsed the tension enormously increased; there was complete anæsthesia of the cornea, the eye was stony hard, and the vitreous, especially its posterior portion, became quite fluid. He proposed dividing glaucoma into two groups: 1. Glaucoma anticum—due to some obstruction in the anterior drainage system as well as Fontana's canal. 2. Glaucoma posticum—depending on an obstruction in the vascular sheath (pial Scheide) of the optic nerve.

In the "Royal London Ophthalmological Hospital Reports," Vol. IX., Part ii., 1877, Mr. Brailey, curator of the museum, contributes an interesting and suggestive paper on the Pathology of Increased Tension of the Globe. His observations are based upon the microscopic examination of 53 cases, in which increased intra-ocular tension had been at some time a symptom. He divides his cases into two groups:—

"A. Those in which an affection of the iris has been the primary cause of the tension, the disease either remaining confined to this—as in two cases of buphthalmos—or extending backwards so as to affect the ciliary-choroidal tract secondarily."

"Those in which the part of the tract posterior to the iris is affected, without any obvious iritic change preceding it."

The first group numbered 28 and the second 25 cases. The latter included "all cases known usually as glaucoma."

The seat of the most marked and universal changes occurring in glaucoma, was found by the author to be in the ciliary body. Of the cases included under group B, it was extensively affected in all but one, and in it there was some change. In group A it was markedly implicated in all but three.

"The remaining 49 cases of increased tension present marked ciliary changes, and the one which is present in all, and more distinctly seen in each than any other pathological condition, is atrophy of the ciliary muscle."

The circular fibres were specially affected, and to such an extent that in many

[1] Archiv. f. Ophth. Bd. XXII. Abth. III. P. 163. Bd. XXIII. Abth. II. P. 62.
[2] Archiv. f. Ophth. Bd. XXIII. Abth. I. P. 1.
[3] Bericht der Ophthalmologischen Gesellschaft. Heidelberg. 1877. P. 16.

cases the affected part presented no traces of muscular fibres at all. At the same time the radial fibres did not escape, their bulk being diminished, though to a less extent than the others.

The author alludes to the peripheral adhesion of the iris, a condition to which considerable attention has been directed in the papers by Kniess and Weber, and also in the discussion on Pagenstecher's communication at the Heidelberg meeting. He does not agree with Kniess that it is the cause of the increase of tension, though it may undoubtedly have a "great effect in keeping up an already established increased pressure." He also considers that Kniess attaches too much importance to the closure of Schlemm's canal. While admitting that in most of his specimens of increased tension Schlemm's canal was commonly closed, yet it was by no means invariably the case, and it was a much less constant condition than either atrophy of the ciliary muscle or the atrophy or adhesion of the iris. He is disposed "to attribute its closure to its compression, either through the dragging forward of the iris in a prolapse, or its bulging forwards from pressure behind, as in the case of group B."

One very suggestive passage towards the close of the paper is worthy of note: "In studying longitudinal sections of the atrophied ciliary muscles of glaucomatous eyes, it is very common to find sections of dilated empty venous channels. These are of more frequent occurrence than the changes in Schlemm's canal, but are not so constant as the ciliary and iritic changes above described. I am unable to say precisely what may be the pathological causes or results of this condition, but the atrophy of the muscle may be connected with yielding of the muscular tissue surrounding its veins. The increased intraocular pressure should have a tendency to close these veins. We may connect them with the dilated ciliary veins so often seen externally during life in such cases."

"It is extremely likely that the ciliary muscle has functions besides that of accommodation, and that it may be concerned in regulating the blood supply. This might explain the effect of an atrophied ciliary muscle in passively keeping up an increased tension, notwithstanding that the periphery of the iris has never been united to the cornea."

—

Case of Trephining of an External Meatus closed by Bony Deposit.

In Virchow's *Archiv*, vol. lxxiii., 1878, Dr. Moos, of Heidelberg, relates a case of acute inflammation of the right external meatus, causing osseous occlusion of the canal. The deafness was great. There was no tinnitus, and affection of the acoustic was negatived. Believing, from the character of the auscultatory sounds, that the obstructive mass was not extensive, trephining was determined on, and this was effected by means of a drill of two millimetres in diameter; but not till a canal seven millimetres in length had been made. The result was very satisfactory, the hearing being restored nearly to the normal degree; and, when the patient was seen two months afterwards, there were no symptoms of a return of the affection.—*London Med. Record*, June 15, 1878.

—

The Treatment of Laryngeal Stenosis.

Although Dr. Schrötter has already made two communications, and published an essay, on this subject, he thought it right to again bring it forward at the Imperial Royal Medical Society of Vienna, partly because he had some cases of recovery to relate, and partly to again call attention to his previous advice. He divided the cases of laryngeal stenosis into two groups—one in which the contraction was treated after the performance of laryngotomy, and another in which the danger of suffocation appeared to be imminent, but laryngotomy was not per-

formed. The first group was subdivided into two sections, according as the stenosis was treated from above or from below. The latter method, which had been carried out by some, but almost always with negative results, he had not practised, because the stenosis formed a canal narrowing downwards towards the trachea. As regarded dilatation from above, the experience of Roux, Depray, Navratil, and Weinlechner had given only partial results. There was some improvement, but no such cure as to allow the removal of the canula. Dr. Schrötter had many times arrived at this result, and was able to show some cases. The first case was that of a man who had been under treatment from April, 1875, to July, 1876. Laryngotomy was performed, on account of laryngeal perichondritis. Complete recovery followed; the patient (a teacher of languages) being able to employ himself in instruction for twelve hours a day without any trouble of importance. He spoke aloud and distinctly, and suffered no inconvenience from bodily exertion. The second patient who was shown still wore the canula, but it had been stopped for some time, and might have been removed, had not the patient objected, on the ground that tracheotomy had been twice already performed on him, on account of sudden paroxysms of suffocation from some unexplained cause; and he was unwilling to expose himself to the chance of a third operation. The patient came under Dr. Schrötter's care in 1873, wearing the canula; in July, 1874, he was able to have the canula stopped, and it had remained so. His speech was quite intelligible, and there was no dyspnœa. The third case shown was that of a man who had been under treatment since October, 1877, for stenosis of the larynx, the result of perichondritis following typhus. For the last twenty days the patient had plugged the canula; he spoke well, and his breathing was calm. It was necessary for him to wear the canula, as otherwise contraction would return. His voice was rather hoarse, in consequence of his having taken out the tube for the first time two days previously, which had produced irritation of the larynx. The fourth patient was still under treatment. He could introduce the bougie himself in the manner recommended and described by Dr. Schrötter (see *London Medical Record*, April 15). [This method consists in passing a thread through the mouth, larynx, and upper opening of the trachea tube, and passing it out through the external orifice of the tube. The two ends are then knotted together. The thread serves as a guide for the bougie, which has a silk thread at each end. The bougie is fastened to the mouth end of the thread, and, by traction on the tracheal end of the thread, is drawn down to the inner opening of the trachea. In removing the bougie, it is simply drawn to the mouth and set free from the guiding thread.] He next spoke of the treatment of cases of laryngeal stenosis, in which laryngotomy had not been performed. The first attempts of the kind were of old date; in them, however, it was only attempted to insufflate medicines into the larynx and trachea. Desault and Weinlechner had attempted to cure stenosis of the larynx, but without success. Dr. Schrötter had obtained favourable results in the most advanced stages of stenosis. He showed a woman who had suffered from severe stenosis after variola. The patient came under treatment in October, 1876, and in April, 1877, might be regarded as cured. She also suffered from chronic laryngeal catarrh, and hence was still hoarse. The case was the more interesting, as the stenosis was caused by a cicatricial membrane. Dr. Schrötter showed a drawing, which illustrated the condition at the commencement of the treatment. The glottis was almost entirely occupied by a membrane, and anteriorly there was adhesion of the vocal cords. Following Türck's example, Dr. Schrötter divided the membrane with a knife, and then proceeded to dilate the stenosis. In this, as could be seen by laryngoscopic examination, he had perfectly succeeded. The vocal cords were quite free up to the anterior angle, and, as this condition had

already remained unchanged for some time, readhesion of the vocal cords was scarcely to be feared. Dr. Schrötter had also treated successfully a number of other patients, who, however, were not at present in Vienna.

Dr. WEINLECHNER asked Dr. Schrötter how he would deal with less intelligent patients, in regard to the application of the ring of thread. The experiment was very simple, and could be easily carried out; but he did not think that every patient could do it for himself, like the one who had been shown.

Dr. SCHRÖTTER replied that it was necessary not to entrust the patient with his own treatment until the stenosis was cured; and the only object was to prevent a return of the contraction. He had as yet met with no patient who had not learned to introduce the tube. In one case, that of a boy, there was difficulty in the introduction of the tube. A flexible forceps was therefore introduced through the external opening in the larynx into the mouth, and made to seize the bougie. This manœuvre was learned by the nurse.—*London Med. Record*, June 15, 1878.

—

Case of Gastric Fistula.

Dr. KJÖNIG describes in the *Norsk Magazin fur Lägevidenskaben*, 3d series, Band vii. (abstract in *Nordiskt Medicin. Arkiv*), a case of fistula of the stomach in a married woman, aged 34, whom he had had under observation since 1872. The opening was situated in the ninth left intercostal space, about three and one-fifth inches from the point of the tenth rib; it was a cleft about four-fifths of an inch long, but only wide enough to admit the blunt end of a probe. The edges were inverted, excoriated, and adherent to the subjacent rib. Sometimes, especially in the morning, a fluid having an acid reaction and mixed with food escaped. The appetite was good; the bowels were costive; the patient's general condition was satisfactory. From the age of eight she had suffered from pain in the left hypochondrium, and later had been often treated for chlorosis. When she was nineteen years old the pain in the hypochondrium and epigastrium increased, and was generally accompanied by pain over the left olecranon. In 1865 a painful swelling of the size of an almond was observed, and in 1871 a fistula was formed at the same spot. The fistula closed after a time, but on the last day of the year it again opened. The opening, which at first would admit a little finger, afterwards contracted, so that only an inconsiderable quantity of aliment escaped. The discharge consisted essentially of a clear tenacious mucus, and on one occasion of a bile-stained or rather blood-coloured fluid. The administration of a two per cent. solution of bicarbonate of soda did not change the reaction of the fluid which escaped.

Dr. Kjönig remarks that fifty-six cases of gastric fistula had been observed up to 1876. He regards the prognosis as good, inasmuch as, so far as statistics show, death was attributable to the fistula itself in only one-fifth of the cases.—*London Med. Record*, June 15, 1878.

—

Two Cases of Intussusception, in one of which Abdominal Section was performed.

Mr. HANDFIELD JONES and Mr. HERBERT W. PAGE, at a late meeting of the Royal Medical and Chirurgical Society (*British Med. Journal*, June 8, 1878), recorded two cases of intussusception in patients of Dr. Handfield Jones at St. Mary's Hospital. The first, a harness-maker, aged 60, admitted May 12, 1874, had, although enjoying good health, passed blood *per rectum* for the previous twelve months. On May 5, he was seized with abdominal pain, and then passed a teacupful of clotted blood. The pain became constant after May 8,

and, when admitted, a tumour was found in the cavity of the bowel, round which the finger could be passed, and there was dulness in the left flank, with constipation. He was examined on the 21st, with a view to operation; but the surgeon (since dead) concluded there was cancerous disease, having brought away a portion of growth on the finger. The man died on the 23d. Extensive peritonitis was found *post-mortem*, and a large invagination projecting into the rectum, which could be reduced with ease, and there was no cancer. Regret was expressed at the delay and mistake in diagnosis; an operation might have easily relieved the condition, and perhaps have saved life.

The second case presented features of great interest. A boy aged 5 was admitted December 31, 1877, with a history of having lost flesh and been very ill for six weeks. He had severe paroxysms of pain in his abdomen, varying much in frequency, and with some diarrhœa. He improved during the first few days; but, on January 14th, he had more pain, and there was dulness on percussion in the left flank. This condition increased, and, on the 20th, the child being very ill, and there being a distinct hard lump in the left iliac fossa, inflation was performed *per anum*, and was followed by a rapid subsidence of all the urgent symptoms. His state continued very variable from day to day until February 4th, when the tumour again appeared, and was a second time relieved by inflation. On February 11th, for a third time, and again on February 16th, the tumour reappeared, and was removed by insufflation; and on February 25th, the operation was again repeated for the fifth time, and caused the disappearance of the tumour, then much larger than before, and both seen and felt in the left iliac fossa. He was taken out of the hospital by his parents on February 27th, with a warning that a recurrence of the disorder was almost certain. He was readmitted on March 4th, in an alarming state, the symptoms having returned two days before. A large tumour was now felt, reaching from the iliac to the umbilical region; and inflation, when performed in the afternoon, only changed its position, but did not make it disappear. The child continued in great pain, and in the evening insufflation was again tried, and failing, water was injected, but without success. On the following day, he was much worse; and at 5 P. M., when pulseless and collapsed, he was seen by Mr. Page, who at once performed abdominal section. The tumour was so large that it was necessary to prolong the incision above the umbilicus, and to remove the small intestines from the abdominal cavity. Traction on the upper end of the volvulus was only successful in the extrication of about two inches of ileum; and an attempt to draw off the ensheathing part at the lower end was frustrated by the presence, then discovered, of a second and lower intussusception of the colon, in which the order of parts was reversed—the inferior portion being ensheathed in the upper, which thus became the ensheathing part. The two volvuli met and overlapped each other at their extremities, and it became necessary to reduce the backward intussusception before the ordinary invagination could be relieved. Owing to the great distension of the bowel and slight adhesions at the ultimate part of the intussusception, this was a work of much difficulty, and was only accomplished by considerable force. The upper or more usual invagination was then reduced with great ease, by gently squeezing the lower end of the volvulus—an action which simultaneously drew off the ensheathing, and pushed out the ensheathed part of the bowel, the vermiform appendix being the last to appear. There was some visible congestion and thickening about the cæcum, but no general peritonitis or adhesions. The operation, of which a detailed account was given, lasted an hour and a quarter. The child considerably rallied after it, but died exhausted the following morning, having lived nine hours and three-quarters. At the necropsy, the lips of the wound were found adherent. There was commencing peritonitis of

the small intestines, but none of the large bowel. At a point corresponding with the upper limit of the volvulus, the mucous membrane of the ileum was swollen and greatly congested, and that near the vermiform appendix was much the same. The meso-cæcum was so lax as to allow the cæcum to be drawn over the left iliac fossa.

The method of reducing the upper volvulus was specially referred to, as confirmatory of Mr. Hutchinson's experience, recorded in the fifty-ninth volume of the *Transactions*, that pulling down the ensheathing part rather than pulling out the ensheathed part was the true mode to pursue. Reduction of the backward intussusception was rendered most difficult from the slight adhesions at its furthest end, and from great distension of the gut; and, although accomplished without damage to the structure of the bowel, it was thought that such force as was requisite might itself have been dangerous. Reference was made to the long continuance of pain before any definite appearance of tumour; and it was suggested, as an explanation of the occurrence of intussusception, that pain and the subsequent motor derangement must be ascribed to a functional disorder of the abdominal nerves and ganglia, a relaxed state of a lower segment certainly favouring the intrusion of an actively contracting part above. It was, therefore, most probable that the essential condition of intussusception was a local paralysis of a portion of the small intestine, which became the sheath of the volvulus. Neuralgic pain in other parts was associated with motor paralysis, and probably was so in the abdominal organs. At the same time, the laxity of the meso-cæcum might throw light on a predisposing cause of the intussusception. The second and ascending intussusception formed a very remarkable feature in the case, the existence of a single instance of such a condition having been called in question by the late Dr. Brinton. The absence of peritonitis and adhesions after many recurrences, and the presence of slight adhesions only when the child had been taken home, and when there was long delay in resorting to inflation, showed how necessary it was that this treatment should be had recourse to as soon as intussusception was evident; while the state of the mucous membrane, although the serous surface of the bowel might be free from inflammation, pointed out the imperative need of surgical interference at the earliest possible moment after other means had failed to give relief.

Mr. Gay remembered a case of his own which was somewhat similar. He was called in consultation to see a lady, more than seventy years old, supposed to have suffered for several years from internal piles. Sometimes there was bleeding and difficulty of defecation; and when this was overcome, blood was passed in some quantity. He could find a considerable swelling in the rectum, which seemed to be a polypus when examined by the speculum, and to that he applied a ligature. When he next saw her, there were peritonitis and vomiting, and no motion had been passed. He removed the ligature, and separated the part by the knife. She improved for a time, but after a few weeks she sank and died. No *post-mortem* examination was allowed; but the tumor, when examined, was found to be an old invagination, and it could even be unsheathed with a little trouble. The case showed, at all events, that invagination might last for years without giving rise to marked signs.

Foreign Body in the Bladder.

At a recent meeting of the Société de Chirurgie (*Union Méd.*, June 11), M. LANNELONGUE communicated a case on the part of M. FLEURY, of Clermont, which gave rise to an interesting discussion. The subject of the case is a gentleman, seventy-eight years of age, of robust constitution, and remarkable for his

energy. In 1863 M. Civialé performed lithotrity on him, and from that time he had always been obliged to use a catheter, a slight vesical catarrh having always remained. He employed an instrument five millimetres in diameter, and which had become much roughened by long usage. He introduced it as easily as usual on April 23, but on withdrawing it he found that a portion of it remained in the canal; and in place of sending for aid to have it extracted he forced it into the bladder by means of another catheter. M. Fleury, when consulted, advised expectation, as he considered the attempt to remove a metallic body seven centimetres in length would be of very doubtful success, while cystotomy at the age of the patient was a hazardous procedure. There was but a moderate degree of inflammation caused by the presence of the foreign body, and catheterism was performed without much difficulty, when four days afterwards, during an effort at stool, the end of the catheter presented itself at the anus, and was removed after a few tractions. From this time the pains diminished, and no urine oozed out by the rectum. The patient resumed his former habits of life, and the bladder held the urine for five or six hours, as heretofore.

At the discussion which followed the narration of this case, M. TILLAUX observed that, although the procedure followed had a fortunate issue, it was not a desirable one to imitate, seeing how exceptional must be a spontaneous discharge of a foreign body from the bladder. Moreover, the age of the patient was no reason for abstaining from interference, for operations are performed at that age with successful results. So exceptional must be the discharge of a foreign body of this size through the recto-vesical wall without being followed by a fistula, that M. Tillaux would not trust to it; and if he failed to extract the metallic body by one of the instruments that have been designed for this purpose, he would not hesitate to perform lithotomy.

Prof. VERNEUIL observed that this case raised the question whether we ought to renounce in aged persons the resources offered to us by surgery. Operations in aged persons are, indeed, always of a serious character, for the senile condition of the kidney is one of the most frequent causes of the nephritis which carries off so many patients. For several years past he has been collecting a great number of facts which much aggravate the prognosis delivered in the cases of persons undergoing operations, when subjects of a general affection; but in spite of this, when the necessity arrives, he operates upon them, and some of them recover. It is the same with old age, which is certainly not a worse condition, and, in his opinion, urgent cases should be operated upon. In respect to the present case, it must be admitted that a portion of catheter seven centimetres long remaining in the bladder is a terrible accident, in presence of which we have no right to remain inactive. It should be extracted, and not having much confidence in the instruments constructed for this purpose, Prof. Verneuil would have proposed lithotomy. This case of M. Fleury's possesses the great inconvenience of raising hopes that will be disappointed.

M. DESPRES congratulated M. Fleury in not having made use of any of the instruments contrived for removing solid bodies from the bladder, the utility of which he regards as quite illusory. None of them would have been able to remove this catheter, while their employment might have done much mischief. It is to be regretted that an examination per anum was not instituted, for the end of the instrument pressing against the recto-vesical wall would have been felt, and an incision into the rectum would have enabled it to be extracted. As to the patient's age, that was no contraindication to an operation.

M. TILLAUX said that he regarded this *taille rectale* recommended by M. Desprès as a bad operation; for in an adult there is often difficulty in reaching the posterior edge of the prostate, and still more the base of the bladder, in which

the foreign body may be felt. It is possible in a child, but much more difficult in an adult. As to the operation by the rectum, this does not consist in cutting into the base of the bladder, but in cutting through the rectum into the neck of the bladder in order to penetrate into that organ. If we cut into where the foreign body was located we should divide the vesiculæ and the peritoneum.—*Med. Times and Gaz.*, June 22, 1878.

—

Necrosis and Caries of the Os Calcis.

Professor SCHINZINGER of Freiburg (Baden), reports in Von Langenbeck's *Archiv für Klinische Chirurgie*, Band xxii. Heft 2, four cases of central necrosis of the os calcis. In some remarks on the pathology and treatment of the morbid results of ostitis affecting the calcaneum, the author points out that there is a special tendency for this bone to become inflamed independently of other bones of the tarsus. It is larger than any other tarsal bone, and takes the largest share in bearing the weight of the body. According to Hueter, the developmental processes which go on in the talo-tarsal joint from birth to the period of completed growth are of considerable pathological and clinical interest. In consequence of pressure on this bone during standing and locomotion, the vertical growth may be arrested, and during life the anterior calcanean process becomes more and more depressed. The constant traction of the tendo Achillis on the posterior surface of the bone, and the results of injuries, such as contusion in cases of sprained ankle, and concussion in attempts at active leaping, are all likely to set up inflammatory irritation in the succulent and spongy tissue of the calcaneum. Disease of the os calcis, when attacking healthy adults as a result of injury, usually remains restricted to this bone, and does not spread to other osseous parts of the foot. On the other hand, in cases of scrofulous disease of the tarsus, the os calcis presents a remarkable immunity. It must be well known to all practical surgeons, the author remarks, that the body of this bone is almost invariably found sound in such cases, even when all the other osseous portions of the foot have been thoroughly disorganized by caries. This clinical fact is of some importance with respect to the determination of the method of amputation for the removal of the diseased foot. According to Schede, Pirogoff's method may be applied with good prospect of success even in those rare cases of disease of the tarsus in which the calcaneum has become involved, for here the anterior portion of the bone only, and never the posterior portion, is affected with caries.

With regard to the relative frequency of caries and necrosis of the calcaneum, there is much difference of opinion amongst German and French surgeons. The author seems disposed to hold that these cannot be considered as rare affections. Ollier has reported that, in the course of sixteen years, he saw more than one hundred cases of suppurating ostitis of the calcaneum alone. According to Kocher, the calcaneum is frequently affected by acute osteomyelitis, and is by no means unfrequently the seat of chronic inflammation. Out of fifty-two cases of caries of the tarsal bones reported by Czerny, the calcaneum was affected in thirteen.

The author, in referring to treatment of ostitis of the calcaneum, states that in recent cases of traumatic origin the inflammatory symptoms should be combated with ice and repeated local bleeding. The surgeon has, however, more frequently to deal with the morbid results of inflammation, viz., caries and necrosis. Here his chief object should be to prevent extension of the disease. Whilst in some cases of primary ostitis, an osteo-myelitic focus, or central necrosis, may be restricted to the calcaneum for months and even for years, there are, on the other hand, cases in which the calcaneal disease finally gives rise to fungous synovitis of the nearest articulation. In the treatment of caries of the calcaneum and

of other bones of the foot, Kocher recommends ignipuncture, or the repeated introduction into the bone of a pointed actual cautery, by which the diseased parts are thoroughly destroyed, their seat being subsequently occupied by a new growth of scar-tissue. Dr. Schinzinger is in favour of this method of ignipuncture, and mentions three cases in which he applied it with success. In two cases of children, one five, the other seven years old, long-standing fungous ostitis of a metatarsal bone was speedily removed. In the third case, that of a feeble man aged seventy, suffering from caries of the fifth metatarsal bone, considerable improvement followed the application of the cautery, the suppuration, swelling, and pain in the soft parts of the foot were much reduced, and the patient was enabled to walk again.

In more advanced cases of caries of the calcaneum, it is thought advisable, before applying the hot iron, to remove the diseased parts with the sharp spoon. In the most severe cases it will be found necessary for cure to perform a partial subperiosteal resection, or to remove the whole of the diseased bone. In a case of completed necrosis of the calcaneum, a long-standing source of annoyance may at once be removed by extracting the sequestrum. In cases of carious degeneration affecting several metatarsal bones, there being a well-marked scrofulous diathesis, the author recommends amputation of the foot by Pirogoff's method.

Midwifery and Gynæcology.

On the Treatment of Puerperal Hyperpyrexia by Cold.

Dr. PLAYFAIR'S case of puerperal septicæmia, with hyperpyrexia, treated by the continuous application of cold (*Monthly Abstract*, Jan. 1878, p. 41) opens up for discussion the practice of treating such cases by the rapid abstraction of heat, a remedy which has proved of inestimable value in other grave maladies accompanied by hyperpyrexia. Dr. ALFRED WILTSHIRE records (*British Med. Journ.*, May 8, 1878) two cases similarly treated, as follows:—

In the autumn of 1873, I succeeded my friend and colleague Dr. Edis in the charge of the in-patients of the British Lying-in Hospital, an institution to which I was then physician. In giving the patients into my charge, Dr. Edis remarked that there was something wrong about the place; for none of the mothers had a temperature under 100° Fahr., upon which I observed that I should feel compelled to close the hospital, if things continued in an unsatisfactory state. I regret to say that closure immediately became necessary, on account of the serious symptoms which arose in two newly admitted patients.

A day or two after I took charge, two healthy young women, primiparæ, were delivered in the hospital. Both were married, were aged respectively 23 and 26, and had fairly good labours, there being nothing abnormal in either case. I had the temperature watched, as has now for many years been my custom, and very speedily it attained high figures. There was no local condition in either case to account for this abnormal elevation of temperature, and it appeared to be only too clearly due to the unhealthy surroundings of the patients. Finding that quinine in large and repeated doses, intra-uterine irrigations, purges, and so on, were ineffectual for the reduction of the excessively high temperature, which in each case exceeded 106°, and feeling persuaded that such hyperpyrexia was incompatible with life, if long-continued, I had the patients packed round with vessels containing ice; hot-water tins, soda-water and other bottles, being filled with broken ice.

This *dry cold* method was selected because it obviated the necessity of remov-

ing the prostrate patients from their beds; a point which has always seemed to me to be of much importance in the treatment of hyperpyrexia by cold, since the patients for whom it is necessary are usually extremely exhausted. The temperature in each case was promptly reduced, but it rose again, after a variable fashion, when the cold was removed, and occasionally, I am bound to say, apparently in spite of it. Still, in the main, when it was carefully and assiduously applied, the effect of this method of reducing temperature was distinct, and the relief experienced by the patients was at times great and palpable. The only inconvenience arising from its use was the inability of the patients to sleep during its application. Chilling of the skin appeared to be attended by increased vascular supply to the nervous centres, and consequent wakefulness. This might doubtless have been obviated if we had then had at command the efficient means we now have for cooling the head—viz., the ice-cap. As it was, sound sleep speedily followed the removal of the cold; the cerebral vessels being obviously relieved by the flushing of those of the skin. For many days a weary fight was kept up with fluctuating success, the temperature occasionally remaining normal for several hours. Ultimately, one of the patients recovered, and the other, to my great regret, sank. Unfortunately, no necropsy was obtainable.

I believe that, could we have removed the patient whose case ended fatally from the building, she also would have recovered; for, again and again, her temperature fell to normal or near it, and she appeared to be on the verge of convalescence; she seemed, however, to get fresh doses of poison and relapsed accordingly. What tends to confirm this view is the fact that the other patient, who oscillated in like manner, only recovered on being removed, though at some risk, to her home at Croydon. In neither case was there any purulent collection or other abnormal condition, except that, in the one that ended fatally, there was at one time slight tenderness of the uterus. Both were what might be called ichorrhæmic cases; they were poisoned by their environments, the poison exerting in them powerfully phlogogenous effects. This is by far the most fatal form of "puerperal fever;" in my experience, it is much more rapidly and certainly fatal than where "puerperal fever" is accompanied by suppuration.

Some weeks afterwards, on attending a meeting of the South-Eastern Branch at Croydon as the guest of Dr. Alfred Carpenter, I found the surviving patient in the Croydon Hospital, whither she had been taken shortly after her removal to her home. Her appearance interested me greatly; for, from a plump blonde with plenty of fair hair, as she was when I first saw her, she had changed to a thin dusky-skinned woman with scarcely any hair. Her appearance showed plainly the severity of the struggle she had gone through; her epidermic structures generally had withered, as usually happens after *post-partum* inflammations.

In both the cases just related, the skin was occasionally sponged with cold water. There was one noteworthy difference between them, inasmuch as only one of the patients perspired, and that was she who recovered. The other's skin was obdurately dry, and it is obvious that her power of radiating heat was correspondingly diminished. Efforts were made to induce sweating, but unsuccessfully. Her friends said they had never known her to perspire.

The advantage of applying cold to hyperpyretic patients without moving them is obvious. It is especially useful, for example, in acute articular rheumatism, and in cases of typhoid fever where perforation of the bowel from ulceration is dreaded, since movement from the bed to a bath, or *vice versâ*, might precipitate bursting. This plan has already been attempted with partial success by wet packing and so on; but the packing around with vessels containing ice in addition to the wet sheet or sponging appears to be a ready and powerful means of abstracting heat without unduly disturbing the patient.

Besides its value in puerperal cases, as illustrated by Dr. Playfair's case and by the foregoing, I have also found it of great value after ovariotomy. During the past year, I used it in conjunction with another and similar method, also very valuable—the ice-cap—in, among others, two cases of ovariotomy at the West London Hospital. Both patients recovered, and I believe they owe their recovery in no small degree to the prompt abstraction and subsequent control of heat by the continuous application of cold.

My own observations enable me to concur fully in the opinion that the control of abnormally high temperatures by the application of cold is not only largely feasible, but that it is a therapeutic agent of immense value in a great number of cases. I mean that, by the rapid reduction of hyperpyrexia, not only do we remove excessive and dangerous heat, but also that probably we, at the same time, hinder its production; a result of enormous importance. I am, therefore, quite at one with those who consider that we ought not to wait for *foudroyant* manifestations of hyperpyrexia, but that alarm should be taken early, and efforts made, if possible, to suppress its genesis. There are doubtless still unused methods of doing this, and it will well repay those who are called upon to employ cold to devise means suitable to different cases. For example, where the patient can bear removal from the bed to a bath of cool water without risk, nothing can be better; but numbers of patients could only be so moved at great hazard, and then such measures as water-beds and cushions filled with cold water, vessels containing ice, ice-caps, sponging with cold water, wet packing, exposure to cold air, and so on, might be adopted. Wet packing may, in a modified way, be advantageously combined with ice-packing; and, as both are applicable without undue disturbance of the patient, they are valuable auxiliaries in cases of marked prostration. Moistening the skin and allowing free evaporation not only favours the radiation of heat, but is also extremely grateful to fevered patients. I have adopted the combined plan with decided advantage.

I have more than once stated, at the Obstetrical Society and elsewhere, that quinine appears to exert much less influence over hyperpyrexia of ichorrhæmic origin than over that associated with, if indeed it be not dependent upon, suppuration; and I would venture to suggest the probability that the ichorrhæmic cases which show the highest temperatures and are the most rapidly fatal may be more favourably influenced, if not entirely controlled, by the assiduous application of cold than by the administration of quinine, valuable as that drug doubtless is in other cases. The brilliant results which have attended the administration of salicylic acid and its salts in acute rheumatism, usually a non-suppurative disease, lead one to hope for similar results in puerperal septicæmia unaccompanied by suppuration. I cannot forbear remarking that our present therapeutical resources encourage the belief that we are better able to cope with "puerperal fever" in its various forms than heretofore, more especially when their employment is not unduly delayed.

It only remains for me to say that the further admission of patients into the hospital was immediately suspended on the appearance of unfavourable symptoms in the two patients whose cases I have just related; and that, on inspection, quite enough was found to account for the unhealthy state of the building. Thorough measures were resorted to with marked success, and the recommendation that the hospital should be closed periodically for thorough cleansing and disinfection was adopted by the authorities. This plan has been attended by marked success.

Sore Nipples.

Dr. BROCHARD, so well known by his efforts in favour of maternal suckling, observes that sore nipples are often due to the habit which many young mothers

have of applying mallow lotions to them, which only render the mucous membrane unnaturally tender. These young mothers also frequently induce sore nipples by the practice of applying the child to the breast every few minutes. On the other hand, the same effect is produced by following the advice of many nurses to defer commencing suckling to the second or third day. The breast then has become hard and swollen, and the infant cannot draw milk by sucking. However, from whatever cause sore nipples may arise, Dr. Brochard strongly advises abstinence from the employment of any of the numerous remedies (especially those of a greasy character) which are being constantly recommended as infallible, and as constantly falling into disuse. Instead of these he recommends, however deep or extended the chaps may be, the following simple procedure: Wash the nipple in pure water and carefully dry it, and then powder it and the sores well with suberine, *i. e.*, the impalpable powder of cork. This, too, is much to be preferred in the hygiene of infancy to the inert powder lycopodium, for it is cheaper and contains some tannin. Over the suberine is to be placed a portion of gold-beater's skin cut star fashion, in the centre of which some apertures have been made by means of a very fine needle. Whenever the infant is about to suckle, the suberine is to be washed off and the gold-beaters' skin reapplied, by means of which the child will suck without causing any pain. When it has finished, the suberine and the gold-beaters' skin are to be replaced; and so on every time. This simple treatment always succeeds.—*Med. Times and Gaz.*, June 15, 1878, from *Rev. Méd.*, May 20.

—

The So-called Myxoma of the Placenta.

In a paper in a recent number of Virchow's *Archiv*, Dr. STORCH, of Copenhagen, reviews at some length the pathology of the condition which has been termed myxoma of the placenta, and arrives at the following conclusions: He maintains very different forms of disease of the ovum are included under the name, some of which are essentially different, and have been hitherto wrongly described. The condition which has been termed myxoma fibrosum placentæ is a cellular hyperplasia of the bases of the villi, which consist of mucoid tissue, and proceed from the allantois. The disease occurs only during the later months of pregnancy, and is limited by the ramification of a single villous trunk, although there are indications by a widely-spread change of a similar character in the otherwise healthy portions of the affected placenta. The so-called simple hypertrophy of the villi of abortions during the early months of pregnancy represents an early stage of the same condition. It is commonly accompanied by an hypertrophy and inflammatory thickening of the decidua, which makes it probable that the morbid condition arises from the irritation of a diseased lining membrane of the uterus. The fœtus is commonly well developed.

The so-called hydatid disease and its varieties, which so frequently occur in abortions, are due to a hyperplasia and secondary cystoid degeneration of the connective tissue of the chorion, not proceeding from the allantois. The disease is often accompanied by pathological conditions of the remaining parts of the ovum, amnion, and embryo (malformation and early death). Less commonly the embryo is normally developed, but dies early on account of imperfect vascularization of the chorion-placenta. Very rarely the embryo appears to have been developed, without impediment, to the time of birth.

The peripheral parts of the ovum, chorion, and amnion may develop independently of the existence or non-existence of an embryo. The portion of the placenta proceeding from the chorion is well-developed, but there appears to be only an imperfect formation of the maternal part of the placenta. The disease must begin very early, before the allantois and chorion are united, perhaps even before

the ovum reaches the uterus. How far the hyperplasia with cystoid degeneration of the chorion, in otherwise healthy ova, may be partial, cannot be decided from published facts, since, in many of the latter, this condition may have been confounded with partial œdema of the placenta, or with twin pregnancies, in which a mole has developed by the side of a normal ovum.—*Lancet*, June 29, 1878.

On Ovariotomy.

In an article published in the new *Dictionnaire de Médicine et de Chirurgie Pratiques*, M. KŒBERLÉ gives full details of the special method which he adopts in ovariotomy. When the tumour is of considerable size, and capable of being notably reduced in volume by puncture, he regards it as essential to tap, as a preliminary measure, from five to ten days before the operation. Although the initial incision of the operation may be rendered thereby somewhat more difficult, he considers that the following advantages are gained—The walls of the cyst, as well as the abdominal walls, become thicker as they contract, and bleed less freely from any points of adhesion; the intestines partially resume their normal position and distension with gas; they thus remain better in place after the operation, and the abdomen is less retracted after being emptied, and so less prone to allow the entry of air; any œdema of the abdominal walls disappears; the effects of embarrassment of respiration and circulation, or of sudden diminution of pressure, are not added to the difficulties necessarily resulting from the operation.

The author regards the use of carbolic spray at the operation as only useful under circumstances in which it is impossible to secure absolute cleanliness without it. In a complicated ovariotomy, of long duration, in which the abdomen is widely opened, he thinks that the spray may prove rather a source of irritation than an element of success. He never himself makes use of the spray in any operations, and considers that he obtains as good, if not better, results than those surgeons who have recourse to it. If he requires a disinfecting fluid, he prefers a solution of sulphite of soda, of the strength of ten per cent. He admits, however, that in hospitals, where it is otherwise impossible to prevent the presence of septic influences, the use of the antiseptic method in ovariotomy has led to results incomparably superior to those previously obtained.

The author declares that the complete extirpation of an adherent ovarian cyst is always possible, and that in three hundred ovariotomies he has never left an operation uncompleted, notwithstanding difficulties which at first appeared insurmountable. When the cyst-wall is more or less fused with surrounding organs, as the intestines, the uterus, etc., his method is to make incisions perpendicular to the surface of the cyst, until its fibrous coating is reached, and then peel off the inner layers, leaving the outermost layer attached. In this way he proceeds gradually until the pedicle is reached.

For the arrest of hemorrhage from adhesions, M. Kœberlé very rarely finds it necessary to employ any ligature, but employs instead the hæmostatic forceps invented by himself, which have a joint not far from their extremity, and long handles with a catch so adjusted that a pressure of from six to eight kilogrammes is exercised upon the tissue seized. This forcible pressure condenses the tissues so as to form an obstacle to the passage of blood, and allows a clot to form. At the end of fifteen minutes hemorrhage usually does not recur after removal of the forceps. In the case of vessels of the omentum, however, he finds that the action of the forceps is sometimes insufficient, unless they can be left in place for a very long time, and ligatures then become necessary. The use of ligatures cut short and dropped, the value of which has of late been so much demonstrated, he regards as not absolutely free from disadvantage, since they may give rise to purulent collections, and various consequent accidents. If it be necessary to use them, he prefers carbolized catgut.

M. Kœberlé treats the pedicle by the extra-peritoneal method. He encircles it by the wire of the serre-nœud invented by himself, an instrument on the principle of a small écraseur. Above the wire and in the same groove is placed, for additional security, a silk ligature. Above this again the pedicle is transfixed by a small trocar, and a steel rod, seven or eight centimetres in length, is passed through the canula, which is then withdrawn. The rod then holds the pedicle in place, the end of the serre-nœud and the silk ligature lying between the lips of the wound but external to the peritoneum. The serre-nœud is generally left until between the fifth and eighth day, but it may be removed at once, if desired. The author considers this method as preferable to the use of the clamp, since, although it appears somewhat more complicated, it is applicable to all cases, whatever the dimensions of the pedicle. If it be desired to drop the pedicle, he recommends that it should be secured temporarily by the serre-nœud, and that carbolized catgut sutures should be used.

The author regards the plan of abdomino-vaginal drainage, in which the pouch of Douglas is pierced by a large trocar, and a long india-rubber tube carried from the lower angle of the wound and brought out at the vagina, with the view of facilitating irrigation, as dangerous and injurious in most cases. If drainage be used at all, he prefers to insert immediately above the pedicle a glass tube reaching down into the pouch of Douglas, and draw up the effused fluid with a syringe from time to time. This drainage he only thinks necessary in cases of chronic or suppurative peritonitis, or of profuse hemorrhage. In ordinary cases, he considers that, so far from protecting from septicæmia, as Sims has supposed, it may itself become the cause of septicæmia and peritonitis. For the cleansing of the peritoneal cavity, the author prefers to use dry and perfectly clean linen napkins rather than sponges. Since adopting the use of linen for this purpose in 1874, he has had only ten deaths in eighty-four ovariotomies. In uniting the abdominal wounds, he prefers not to include the peritoneum in the sutures, and contends that the importance attached to this measure by Mr. Spencer Wells is greatly exaggerated, since his own results have been fully as good, although he has never adopted it.—*Obstetrical Journal of Great Britain*, July, 1878, from *Annales de Gynécologie*, April and May, 1878.

Medical Jurisprudence and Toxicology.

The Gums in Lead-Poisoning.

It will be remembered that a few years ago Dr. Hilton Fagge described, in an interesting paper, the microscopical characters of the lead line on the gums, and its dependence on the deposit of black pigment in and around the capillary loops. The same facts were described, almost at the same time, by M. Cras in the *Archives de Médecine Navale* (Feb., 1875, and May, 1876), and further observations by him were submitted recently to the Société de Chirurgie. He has examined the line in portions excised from the gums of many patients, and found that it was easy to demonstrate the presence of lead in all the capillaries by the action of chromic acid. This stains the whole gum of a yellow colour, but the capillaries are distinctly marked by a much deeper tint, in consequence of the formation of chromate of lead. If now the section is washed in distilled water, and is treated with sulphide of sodium, the black tint of the capillaries is rapidly reproduced. Examination with high magnifying powers shows that the pigment is for the most part in the interior of the capillaries. M. Cras asserts that this line is not the only effect of lead upon the gums, and he describes another change

antecedent to the lead line, and more constant, which he terms "saturnine gingivitis." The gums have two aspects—the one free in the mouth, covered with epithelium, the other adherent to the teeth and periosteum. These two surfaces unite at the narrow festooned border, which the epithelium covers as far as the place at which the gum adheres to the neck of the tooth by its periosteal surface. The interdental processes, which fill up the furrow between the gums and the teeth, present two surfaces adherent to the teeth. The capillary circulation of the gum is constituted by two plexuses: the one superficial, papillary, with fine vessels; the other deep and periosteal. It is always the periosteal plexus which is the seat of the deposit of lead; the papillary plexus is normal. He asserts that every lead line is accompanied by a detachment of the gum from the tooth. On separating the loosened edge of the gum by a needle, a drop of pus, retained between the gum and the tooth, often escapes. The excision of the edge of the gum for examination is easy and painless, the interdental processes being especially convenient for the purpose. It will be seen, if the periosteal aspect is removed, that there, in the section, the line is replaced by a dotted area due to the black infiltration of the capillary loops. Thus, the line which is visible on the outer aspect of the gums is only the edge of the layer of blackened capillaries on the periosteal surface. The mechanism of the production of the line is, according to M. Cras, as follows: First, by the chronic inflammation of the gum, the edge is separated, and in the space between the gum and the tooth organic matters accumulate. The sulphuretted hydrogen disengaged during the decomposition of these organic substances passes, as soon as produced, into the walls of the capillaries, and, acting in them on the metal brought by the blood, a deposit of sulphide of lead takes place in the capillary network. The gingivitis and deposit extending around the tooth often lead to serious consequences—retraction of the gum, abscess, etc. The production of this change is variable. The presence of tartar unquestionably assists its production. M. Magitot at the same meeting contested the opinion of M. Cras as to the seat of the deposit, asserting that it is placed invariably in the deeper layers of the epithelium of the gum, adjacent to the Malpighian layer of the mucous membrane, not in the capillary network; and urged that the deposit depends on the elimination of the lead by the saliva, and was precipitated by the effect of the sulphur in the tartar of the teeth.—*Lancet*, June 22, 1878.

—

Case of Poisoning by Cyanide of Potassium Successfully Treated.

Dr. MUELLER-WARNEK, assistant clinical physician at Kiel,[1] reports the case of a photographer in Weimar, Hugo G., aged twenty-four years. From his youth upwards he had shown an easily excitable and eccentric disposition. His father had committed suicide. About five years previously, owing to some trifling dispute with a woman to whom he was then attached, Hugo made an attempt on his life, and was only saved by prompt medical assistance.

On the evening of the 12th September he had had a quarrel, and parted in anger from another woman with whom he had then associated. Just before this he had been drinking a quantity of beer. On his return home, it was observed by some of his fellow-lodgers that he was unusually restless, walking up and down in his chamber before retiring to rest. The next morning he breakfasted as usual, but soon after that, was seen by a neighbour pacing up and down in his room with a torn letter in his hand. A fall was heard, and on the persons in the house rushing up, they found him lying on the floor in an unconscious state, holding in one hand a letter, in which the woman rejected him as a lover, and in the other a small bottle containing a solution of cyanide of potassium, such as is used in pho-

[1] Berliner Klinische Wochenschrift, February 4, 1878.

tography. A medical man who was called in sent him at once to the hospital, where he was placed under the care of Dr. Mueller-Warnek, about 10 o'clock A. M. In the mean time he had vomited, and the vomited matter had the smell of bitter almonds.

Dr. Mueller-Warnek thus describes his condition when admitted about an hour after he had taken the poison. He was a man of middle height, delicate frame, and weak muscular development. He was in a state of profound coma. The skin was cold, with a clammy perspiration; the extremities were cold, and the face greatly cyanosed. The eyeballs projected from the lids, and were directed upwards and outwards; the pupils were much dilated, and were quite insensible to light. The lower jaw was strongly fixed by spasmodic contraction; a frothy saliva, tinged with blood, issued from the mouth, and at each expiration there was a strong odour of hydrocyanic acid. In the mouth and throat there were distinct patches of ecchymosis, and on the gums a white mark of corrosion. The muscles of the extremities were quite relaxed, and there was an entire loss of sensibility and reflex irritability. With the exception of the trismus above mentioned, there was no indication of convulsive action, either tetanic or clonic. The respirations were greatly reduced in number; they were deep and spasmodic, each occupying a long time, and they were accompanied by mucous *râles* in the trachea. The pulse was small, 120 in a minute, and occasionally intermittent. Auscultation revealed the presence of mucous *râles* during breathing over the whole of the lungs. The impulse of the heart could not be felt, but the sounds were rhythmical and low, and the movements were irregular. The temperature of the body was evidently much lower than natural; it could not be determined until the patient had been an hour and a half in the hospital. It was then 36.2° cent., or 97.1° Fahr. While the patient was lying in this state, the urine passed off involuntarily.

Although, from the character of the symptoms, recovery from the effects of the poison appeared very improbable, means were immediately adopted to remove from the stomach any solution of cyanide that might remain, and at the same time to stimulate the action of the lungs. Sulphuric ether was hypodermically injected, and the stomach-pump used until the tepid water employed for injection came away entirely without colour or smell. The first washings of the stomach had a well-marked odour of hydrocyanic acid, and this was perceptible even after several quarts of water had been used. Altogether twenty litres of water were used in washing out the stomach. (As the litre is equal to 35 ounces, the quantity here used represents washing on a very large scale.) In spite of the ether injection, the breathing became more laboured and the pulse smaller and more irregular. Artificial respiration was resorted to, and ether, containing one-tenth part of camphor dissolved, was hypodermically injected. In spite of this treatment, collapse appeared imminent.

It was now 11.30. The patient was placed in a hot bath, 33° R., or 106° F., and a stream of iced water was poured upon his head and neck from a height of several feet. The results of this treatment were very remarkable. On the first affusion of cold water a deep inspiration took place, and this was observed whenever the iced water came suddenly into contact with the skin. The breathing became gradually more regular and frequent, the pulse lost its intermittent character, and acquired greater strength. The eyeballs assumed a natural position, and the pupils had almost acquired their natural dilatation. Ether with camphor was again injected, the patient wrapped in blankets, and put to bed. At this time (12.30) he was in a state of complete somnolency. At 1.30 the breathing was free, and there were no mucous *râles* to be perceived. The temperature of the body was 37.4° cent., or 99° F. About 2.30 the patient was lying in a quiet

sleep; he could be roused by a noise, as in calling him by name, but soon relapsed into sleep. Reflex action was manifested by the muscles; the number of respirations to the minute amounted to 20, the pulse was 85, full and regular. He retained some milk and wine which were given to him. As the whole of the region of the stomach was very tender, ice was applied to it. At seven in the evening (ten hours after taking the poison) consciousness returned, and the patient remembered what he had done before swallowing the poison. He now complained of severe headache in the occipital region, and of a lancinating pain in the region of the stomach. After he had swallowed two glasses of cold milk he again slept quietly. The temperatare of the body, which at six o'clock showed a maximum of 38.6° cent. (about 102° F.), at eight o'clock, had again sunk to 37.8° cent. (99° F.).

The case progressed favourably, and the patient left his bed on the 17th September, the sixth day after he had taken the poison, his pulse, breathing, and appetite gradually improving. He suffered still from great weakness and depression. The urine which he passed was strongly acid, and contained much uric acid in a crystalline state. No hydrocyanic acid was found in it.

For a long time after recovery the patient walked with an unsteady gait. He suffered no pain, but he soon became tired. For more than two months he did not entirely recover his power of speech. This state of aphasia was still observable on the 24th November. Up to the time of his attempting suicide, nothing of this kind had been remarked.

Cyanide of potassium was detected in the fluids removed from the stomach by two processes. 1. Nitrate of silver produced a caseous white precipitate (cyanide of silver) which was entirely dissolved on warming the fluid. 2. Chloride of iron, green sulphate of iron (in solution) and solution of soda were added to another portion of the liquid contents until a precipitate took place. This, when warmed and treated with hydrochloric acid, produced Prussian blue.

[In general, this poison destroys life with such rapidity that a medical man has no opportunity of employing any remedial treatment. The treatment pursued here was efficient and satisfactory. It consisted chiefly in the entire removal of the poison from the stomach, and cold affusion to the head and spine. The very hot bath employed simultaneously may have been required by the state of collapse into which the patient was rapidly passing. Dr. Mueller-Warnek lost no time in looking about for chemical antidotes, but he took care, by the enormous quantity of water injected, that not a particle of the poison should be left in the stomach to be removed by the absorbents.

Owing to a spasmodic closure of the jaws (trismus) there is, in general, on these occasions, great difficulty in using the stomach-pump. In one case, a woman who had taken a photographic solution of the cyanide, the loss of some teeth allowed the introduction of the tube within five minutes after she had taken the poison, but, in spite of this, she died in twenty minutes. The dose of cyanide was probably very large.

The quantity of cyanide taken by Dr. Mueller-Warnek's patient could not be ascertained, and the strength of the solution was not determined. As used by photographers, it commonly contains ten grains to the ounce. Dr. Mueller-Warnek states that it consisted of one part of cyanide to fifty parts of water, which would be of about the strength above mentioned; but how much of the solution was actually swallowed is unknown. The violence of the symptoms, and the time during which they lasted, showed, however, that a strong dose of the cyanide must have been taken, and there is every reason to believe that had this case been left to itself it would have soon proved fatal. A dose of five grains of the cyanide has destroyed life in three instances. REP.].—*London Med. Record*, May 15, 1878.

CONTENTS.

Anatomy and Physiology.

The Origin of the Chorda Tympani. By M. Vulpian 337
Physiology of the Salivary Secretion. By Dr. Langley 338

Materia Medica and Therapeutics.

The Action of Anæsthetics. By M. Vulpian 338
On Myotics and Mydriatics. By M. Panas 340
An Undescribed Effect of the Action of Chloral Hydrate. By I. Ranke . . . 340
The Antiseptic and Therapeutic Properties of Boracic Acid. By G. Polli . . . 341
On the Action of Cyclamin. By Dr. Chirone 341
Physiological and Pathological Action of Alcohol and Essence of Absinth. By Magnan 342
Therapeutic Employment of the Pancreas and the Meat-pancreas Clyster of Leube. 343

Medicine.

Sudden Death in Diabetes. By Dr. Jules Cyr 344
Treatment of Chronic Alcoholism. By Dr. Lauder Brunton 345
The Influence of Injuries upon the Development of Hysteria and Paralysis Agitans. By M. Charcot 345
A Complex and Exceptional Neurosis. By Dr. Berthier 349
On Cerebellar Disease. By Prof. Nothnagel 350
Paraplegia from Cold. By Dr. Lange . 353
Jaborandi in Obstinate Hiccough. By Dr. Ortille 353
The Cure of Sciatica by Phosphorus. By Dr. Volquardsen 353
On Trophic Disturbances. By M. Brown-Séquard 354
On the Pathology of Muscular Atrophy. By Dr. Landouzy 354
On Paralytic Disorders of the Voice in Phthisis. By Dr. Kittler . . . 354
Physical Diagnosis of Pleural Exudations. By Dr. Rosenbach 356
Immobilization of the Thorax in Pleurisy. By Dr. Perroud 357
Obliterative Endarteritis. By Dr. Paul Baumgarten 358
Case of Embolism of the Pulmonary Artery. By Dr. O. V. Petersson 360
Tubercle of Serous Membranes and so-called "Giant-cells." By M. Cornil . 360
Gastric Distension, complicating Intestinal Meteorism. By Professor Gross . . 362
Cases illustrating the Treatment of Bromide Rash with Arsenic. By Dr. Gowers 362

Surgery.

Impairment of Vision after Loss of Blood. By Dr. C. Horstman 365
Glaucoma and Increased Tension of the Globe. By Dr. Fitzgerald . . . 366
Case of Trephining of an External Meatus closed by Bony Deposit. By Dr. Moos . 368
The Treatment of Laryngeal Stenosis. By Dr. Schrötter 368
Case of Gastric Fistula. By Dr Kjönig . 370
Two Cases of Intussusception, in one of which Abdominal Section was performed. By Mr. Handfield Jones and Mr. Herbert W. Page 370
Foreign Body in the Bladder. By M. Lannelongue 372
Necrosis and Caries of the Os Calcis. By Professor Schinzinger 374

Midwifery and Gynæcology.

On the Treatment of Puerperal Hyperpyrexia by Cold. By Dr. Alfred Wiltshire 375
Sore Nipples. By Dr. Brochard . . . 377
The So-called Myxoma of the Placenta. By Dr. Storch 378
On Ovariotomy. By M. Kœberlé . . 379

Medical Jurisprudence and Toxicology.

The Gums in Lead-Poisoning. By M. Cras 380
Case of Poisoning by Cyanide of Potassium Successfully Treated. By Dr. Mueller-Warnek 381

Published Monthly, price $2.50 *per annum, free of postage.*

Also, furnished together with the AMERICAN JOURNAL OF THE MEDICAL SCIENCES *and the* MEDICAL NEWS AND LIBRARY *for* SIX DOLLARS *per annum in advance, the whole free of postage.*

HENRY C. LEA, Philadelphia.

THE MONTHLY ABSTRACT

OF

MEDICAL SCIENCE.

VOL. V. No. 9. For List of Contents see last page. SEPTEMBER, 1878.

Anatomy and Physiology.

On Hæmatoblasts.

M. G. HAYEM, in a paper read before the Société de Biologie (*Gazette Médicale de Paris*, June, 1878), has sought to verify by experiments on new-born cats the facts advanced by Kölliker (*Würzb. Verhandlungen*, Band vii.; and *Elements of Human Histology*) regarding the origin of the elements of the blood, viz., the presence of colourless and granular red blood-corpuscles, as well as of red nucleated corpuscles, in the blood of young mammalia (cats, dogs, mice).

M. Hayem says that, in pure blood, nearly all red corpuscles become spinous, which, however, does not prevent them from being disposed in rouleaux, between which are many small bodies, solitary or in groups. These bodies are hæmatoblasts; they soon undergo modifications analogous to those in the blood of man. There are also innumerable bright small granules in the plasma, which give it a milky appearance; these are found in all young animals fed by milk, except in children.

The following are the most important facts arrived at by M. Hayem in studying hæmatoblasts in the blood of the new-born cat. The red blood-corpuscles vary considerably in size, they do not possess a nucleus. The white blood-corpuscles have a large nucleus and a comparatively small covering of albumen, which is not contractile. The hæmatoblasts are somewhat different from those of human blood; they are pale delicate bodies, round or oval, rarely concave; some are colourless and others yellow, many become spiny and bristle with very fine points. They nearly all unite to form yellowish masses with irregular borders; in a few hours these masses become more homogeneous, and a number of vesicles or vacuoles make their appearance. The fibrinous network is indistinct in pure blood, but, after treatment with iodine and serum, very fine filaments may be observed at the angles of the masses. In this preparation the hæmatoblasts are less altered than in pure blood, they are solitary or in small groups, many become spinous; in shape they are ovoid, elongated, and remain so in whatever position they are placed; some are coloured, others pale, homogeneous, and slightly vitreous. In preparations made with osmic acid, the walls of the hæmatoblasts seem slightly retracted but not spinous. Small yellow spots like vesicles sometimes appear in their substance, but no nucleus has been discovered. There are no nucleated red blood-corpuscles in the blood of the new-born cat. The hæmatoblasts are less than the smallest white blood-corpuscles; it would be impossible for them to arise from a transformation of the latter. In rapidly made preparations of dried blood the hæmatoblasts are perfectly preserved; they are always grouped in masses, the elements being generally distinct, ovoid, yellowish-green, and of a peculiar glittering appearance. Some solitary ones are almost discoid, slightly coloured and crenulated. Hæmatoblasts have very similar reactions in

the blood of all vertebrates, not differing between themselves more than do the red blood-corpuscles. The same elements are found in splenic blood as in that taken from other parts of the body, but there are more small white uninucleated corpuscles in it than in other blood.—*London Med. Record*, July 15, 1878.

Materia Medica and Therapeutics.

The Action of Arsenic.

The effect of arsenic upon animals has lately been carefully studied by GIES, who has administered to rabbits, fowls, and pigs during months gradually increasing doses of arsenious acid, the daily dose being: rabbits .05 to 7 milligrammes, the fowls 1 milligramme to 8 centigrammes, and the pigs 5 milligrammes to 5 centigrammes. All the animals became heavier and fatter, and there was a considerable growth of bone, both epiphysal and periosteal. In all parts of the bones in which there is normally spongy substance, the animals fed with arsenic presented compact bone. The carpal and metacarpal bones, for examples, were compact throughout, and beneath the cartilages of the epiphyses was a compact layer of bony hardness, just as in animals fed with phosphorus. The bone corpuscles of this layer are smaller and less numerous, the Haversian canals are smaller and fewer than normal. These changes were observed after only nineteen days' feeding. Strangely enough, however, the same bone changes were found in other animals kept in the same stall as those which were fed with the arsenic. Gies attributes this to the excretion of the arsenic by the skin and lungs of the animals to which it was administered, and its absorption by the others. Similar changes were found in the bones of animals which were kept in a cage beneath the perforated floor of which arsenic had been scattered. Adult animals fed with arsenic presented a considerable thickening of the cortex of the long bones, and with this there was produced more or less fatty degeneration of the muscular tissue of the heart, of the liver, of the kidneys, and even of the spleen. If the dose of arsenic was further increased, the changes in the bone were masked by those of chronic arsenical poisoning—gastritis and hyperæmia of the whole intestinal tract, and intense fatty degeneration of various organs. The young produced by rabbits during the process of poisoning were dead, but large in size, and presented a commencing osseous change similar to that described, and also a considerable hypertrophy of the thymus.—*Lancet*, July 27, 1878.

The Action of Drugs on the Liver.

In a recent paper read before the Royal Society of Edinburgh, June 17th, 1878 (abstract in *Nature*, July 4th), Dr. RUTHERFORD shows that sodium salicylate, the benzoates, ipecacuan, and various other substances, have a stimulating action upon the liver which has been hitherto unknown, and that, even if a purgative agent have no direct stimulating power on the liver, it diminishes the secretion of bile. The experiments were made upon dogs, and the author is careful to point out that it must still be left to clinical observers to discover whether these drugs have the same effect upon man, since it is impossible to argue that substances which stimulate the healthy liver of a dog would have the same effect upon the liver of a man.—*Lond. Med. Record*, July 15, 1878.

Camphor as a Narcotic for Female Lunatics.

According to Dr. EUGENE WITTICH (*Berl. Klin. Wochenschrift*, No. 11, 1878), camphor is an excellent remedy for the sleeplessness of a certain class of female lunatics with melancholia, accompanied by extreme anxiety, hallucinations of a terrible nature, and a low state of general nutrition. The ordinary drugs, such as chloral, morphia, and bromide of potassium, as well as various kinds of baths, all fail to induce sleep, whereas after the subcutaneous injection of 0.1 to 0.2 gramme camphor, the patient quickly becomes drowsy, and soon goes off into a sleep of several hours' duration. The camphor is dissolved in sweet almond oil (1.0 in 10.0 grammes) and the injection is less painful than one of morphia. The canula must be rather wide, otherwise the oil does not flow readily. Abscesses never occur, even though the injections are often repeated. It is important to begin with the smaller dose of 0.1, for cases have been met with where a dose of 0.2 failed to narcotize, whereas 0.1 succeeded admirably.—*Med. Times and Gaz.*, July 27, 1878.

Medicine.

Leucocythæmia with Paralysis of Cerebral Nerves.

A case of splenic, lymphatic, and medullary leucocythæmia, with multiple paralyses of the cerebral nerves, is described by Dr. C. EISENLOHR, of Hamburg (Virchow's *Archiv*, Band lxxiii., Heft i.). The interest in this case centres in the occurrence, in the course of the disease, of complete bilateral facial paralysis, accompanied by interference with common and special sensibility. Electrical exploration gave the reactions of peripheral paralysis. *Post-mortem* examination revealed the causes of these symptoms to be numerous hemorrhages into the substance of the nerves themselves, the cerebral centres being quite free.—*Lond. Med. Record*, July 15, 1878.

Local Treatment of Meningeal Affections in Acute Articular Rheumatism.

In a paper read before the Medical Society of Greifswald (*Deutsche Medicinische Wochenschrift*, June 8th), Dr. MOSLER says that four years ago Schüller made some experiments to determine whether the acknowledged influence of certain external applications on the cerebral circulation could be demonstrated in the vessels of the pia mater (*Berliner Klinische Wochenschrift*, No. 25, 1874). Sinapisms were in the first instance applied to the skin, the result showing that by a long-continued application thereof it was possible to diminish the blood-contents of the cerebrum. The following observations now show that, in certain cases of cerebral pressure by effusion or congestion, the best results may be expected when the application is made directly on the scalp; that is, in the closest possible proximity to the affected organ and over the greatest possible area. The value of counterirritants and vesicatories in cerebral inflammation, etc., has been long recognized. But their use is also attended by the best results in affections of the cerebral membranes. The patient in the present case was a young man twenty-five years of age, who was seized with acute articular rheumatism, which ran its usual course, without heart or lung complications, attacking most of the large joints in succession. Early in the case, however, there were symptoms of cerebral congestion, which were relieved by blisters to the feet and

a moderate bleeding. Subsequently, cerebral symptoms again set in, in the form of furious delirium, passing into coma, with unequal pupils, retarded pulse, and continuous high temperature (102°–104.5° F.). The treatment, consisting of warm baths and cold affusion, tincture of eucalyptus, cathartics, etc., was of no avail. The head was now shaved, and a fly-blister, of the size of a hand, was applied to the scalp, while behind each ear another blister, of the size of a half-crown, was placed. The following day there was marked improvement in the patient's condition, with return of consciousness and decline of temperature. The case now progressed favourably, and ended in perfect recovery. The liability of acute rheumatism to grave cerebral or cerebro-spinal complications was long known, and noticed by Boerhaave, Sydenham, Van Swieten, and others; while other observers (Todd, Lebert, Trousseau, etc.) have demonstrated a tendency in acute rheumatism to involve other portions of the nervous system. And, as we know the endocardium, pleura, etc., to be liable to rheumatic inflammation, we are justified in assuming the same with regard to the serous membrane of the brain. As to the action of cantharides blisters on the circulation in the pia mater, an experiment on the brain of a rabbit showed that the application of a blister to the nape of the neck, and even the back, was followed first by dilatation of the arteries of the pia mater, then by alternate dilatation and contraction, passing finally into a continuously contracted state, so that even amyl-nitrite was unable to produce dilatation.—*London Med. Record*, July 15, 1878.

—

Results of the Cold-water Treatment of Typhoid.

Dr. GOLTDAMMER, of the Bethany Hospital in Berlin, contributes to the *Deutsches Archiv für Klinische Medicin*, Band XX., a report based upon the careful observation and analysis of abundant material, with a view to determine the value of the cold-water treatment of typhoid fever. He compares the mortality and the duration of treatment since the introduction of the cold-water plan with the results previously attained by the expectant method. From 1848 to 1867, 2228 cases of typhoid were treated by the expectant method, with 405 deaths = 18.1 per cent. From the introduction of hydrotherapy in 1868, to December 1, 1876, 2086 cases were treated, with 267 deaths = 13.2 per cent. The diminution of mortality amounted then to about five per cent. At the same time the average duration of treatment of the cases which terminated in recovery was lessened by 6.3 days, that is, from 46.1 to 39.8 days. Omitting from consideration those cases which from the time of admission were in a moribund state, the mortality would be found to be 15 per cent. for the first, and 10.5 per cent. for the second period, showing a diminution of mortality of fully one-third. The method adopted was a tolerably rigorous but not excessive hydrotherapy. Intestinal hemorrhage, pneumonia, and excessive cardiac weakness were considered contraindications for the full course of treatment. Although a decided adherent of this method, Goltdammer does not, like many, recommend it indiscriminately in all cases. The long period of observation, the number of cases forming the basis of his report, and the fact that these were watched by the same person, in the same institution, and during several epidemics of different intensities, render the author's conclusions of more than ordinary statistical importance.

In concluding his report, Dr. Goltdammer gives a minute account of the last three epidemics, in which 782 cases were observed. He failed to find, as is claimed by some, that intestinal hemorrhage was increased by hydrotherapy. It took place fifty-one times, croupous lobar pneumonia eleven times, and pleuritis thirteen times. Joint-affections were also encountered in a few instances. In two cases there was an extensive pemphigus, a complication not heretofore

referred to by writers on this disease. Both these cases terminated fatally. He very highly extols chloral in doses of from 15 to 30 grains in the management of those patients affected with sleeplessness and wild excitable delirium.—*London Med. Record*, July 15, 1878.

—

Tremor following Acute Diseases.

In a paper read before the Medical Society of Lyons, Dr. CLÉMENT calls attention to a series of cases in which an acute disease has been followed, either immediately or after a short lapse of time only, by trembling of part or of the whole body. This tremor cannot be looked upon as due simply to the debilitated state in which the patient is left by a sharp attack of fever, for it is much more marked than tremor from such a cause, it is more or less rhythmical, and, in the great majority of cases, it is still present after the patient has recovered from the general effect of the fever. The author has recognized two types: in one of which, the tremor resembled that seen in paralysis agitans; and, in the other, it was comparable to the coarse trembling occurring on movement in disseminated sclerosis. The condition is one of great rarity, for the author, though on the look-out for cases of the kind, met with not more than three or four examples of it in eight years, and this, notwithstanding that he was at the head of a large hospital service, and that, during this period, several epidemics of small-pox and of typhoid fever had occurred. Fourteen cases are referred to in the paper, four of which are reported by the author, and the rest are gathered from various sources. In six cases, the trembling presented the characters of paralysis agitans, and, in the remaining eight, those of disseminated sclerosis. We subjoin an abstract of one of the cases observed by the author himself.

A soldier, aged 22 years, was admitted on the third day of typhoid fever. The fever ran a mild course, but, on the eighteenth day, on examining the patient, the hands were found in the typical scrivener's position seen in paralysis agitans, and the muscles were affected with well-marked tremors, just such as those which characterize that disease. There was, moreover, tremor of the feet and legs. When sitting up, the head was bent a little forwards, and was affected with slight tremor, and the eyes looked fixedly to the front. The patient could not raise a glass half full of water to his lips without spilling some of the liquid. Speech was hesitating and slow; his answers to questions were short and monosyllabic. His muscular power was weakened, and sensibility was diminished in all the limbs; but pricking or tickling the sole of the foot brought on reflex spasm of the legs, in which the trembling became much more marked. The tremor stopped altogether during sleep. These phenomena persisted from the eighteenth to the thirtieth day of the disease, and then gradually diminished. At the end of seven weeks the patient was discharged nearly well.

In another case observed by the author, a male patient, aged 35, had suffered from an attack of typhoid fever eight months before, and since that time had always suffered from trembling. When first seen by the author, not only were all the symptoms noted in the present case present in considerable intensity, but there was exceedingly well-marked festination, so that, after walking with the body bent forward for a few steps, the patient broke into a run, and had a difficulty in saving himself from falling, or from running against a wall. In this case, however, there was nystagmus. The treatment adopted, consisted of cold douches and sulphur-baths, and at the end of three months the patient went out nearly well.

In the other two cases observed by Dr. Clément, the tremors were very violent, and were followed by epileptiform attacks. Both of these cases ended fatally; but, unfortunately, in neither case was a *post-mortem* examination made.

In the second group of cases, in which the tremor was allied to that seen in disseminated sclerosis, the following were the principal symptoms: trembling in the execution of voluntary movement, speech drawling and clipped, ataxy, with a certain amount of psychical disturbance, such as change of disposition, tendency to cry or laugh, irritability of temper, etc.

In his remarks on these cases, Dr. Clément calls attention to the very close resemblance between the groups of symptoms above described and those seen in the chronic nervous disorders which have served him for types in his classification. He does not profess to know anything about the pathological anatomy of these states, but he excludes the idea of sclerosis, and he sums up by saying, very wisely, "I have no wish to attribute these symptoms, occurring after acute diseases, to the same anatomical substrata as we find in disseminated sclerosis, for, in the study of symptoms, the nature of the lesion has often only a secondary importance; especially is this true in the pathology of nervous disorders, where the symptoms depend much more upon the seat of the lesions than upon their nature. The alteration produced in the spinal cord by acute affections and in particular by smallpox are transitory, and are evidently less profound and quite different from those present in disseminated sclerosis. But whatever may be their nature, they have the same seat and the same mode of distribution, since they produce the same symptoms."—*London Med. Record*, July 15, 1878.

—

Symptomatology of Meningoencephalitis.

M. VIEL, in his work on this subject,[1] which has for its object the study of the localization of functions of the cerebral cortex, deals with it clinically and experimentally. In the clinical part, the author shows that general paralysis may be of use in this study, at least in its accessory phenomena, as apoplectic attacks, convulsions, more or less limited paralysis of motion, of sensibility, and of the senses; but in general the lesions are too widely spread and too complex for one to arrive at any definite conclusions. For this reason he has undertaken a series of experiments in which he reproduces at will very limited lesions of the gray matter by means of a needle charged with nitrate of silver. The following are some of his conclusions. The experimental inflammatory irritation, as practised by him, does not immediately produce any phenomenon; the various disorders which were demonstrated came on several days after the operation, and were clearly the result of the inflammatory irritation. When the inflammation attacks the posterior third of the cerebrum, it does not seem to produce any disturbance; but when the anterior two-thirds of the gray matter of the hemispheres are attacked, there are observed intellectual disorders, irregularity in the functions of the body, occasional convulsions, epileptiform or choreiform attacks, paralysis, and local disturbance of the sensibility and of the senses. Intellectual disorders coincide with a lesion of the anterior third of the gray matter of the convexity of the brain. Paralysis, convulsions, epileptiform, ataxic, and choreiform phenomena, disorders of the sensibility and of the senses, occur on the side opposite to the lesion, or are more marked on that side. Disorders of sensibility and of the senses have been particularly observed when the lesion occurred in the middle third of the superior and lateral aspect of the convexity of the brain. Motor disorders of the limbs appeared more especially in connection with the lesion of the "sigmoid gyrus." Rotation of the head is generally made in the direction of the lesion. The pupil is almost always contracted on the side opposite to the lesion, sometimes on both

[1] "Etude clinique et experimentale sur les differences que peut présenter la symptomatologie de la méningo-encéphalite de la convexité du cerveau suivant le siège des lésions." Paris, 1878, A. Delahaye.

sides. Various disorders of nutrition may be observed, as considerable and rapid emaciation, lowering of the temperature, conjunctivitis, keratitis, etc. They are generally most marked on the side opposite to the lesion.—*Lond. Med. Record*, July 15, 1878.

—

Athetosis.

Dr. OULMONT (*Etude clinique sur l'Athétose*, par le Dr. P. Oulmont, Paris, 1878), during his residence in the Salpêtrière under M. Charcot, had the opportunity of studying several patients afflicted with athetosis, an affection little known as yet, and of which the name even was until lately almost ignored in France. The history of athetosis is of very recent date; it was first named in 1871 by Hammond of New York, who devoted a chapter to it in his treatise *On Diseases of the Nervous System*. Some years before Charcot (1853) and Heisse (1860) had described phenomena analogous to those defined by Hammond; and, since the labours of the latter, several other observers have spoken of athetosis, chiefly in America and in England.

Athetosis (ἀθέτος, without fixed position) is characterized, according to Hammond, by "the impossibility which the patients find of keeping their fingers and toes in any desired position, and by the continual movement of the same."

The name of athetosis, like that of chorea, says M. Oulmont, is a general appellation, comprising varieties which are very different in point of progress and symptomatology. Athetosis may be unilateral (hemi-athetosis) or double. M. Oulmont has studied both forms in a series of thirty-seven clinical observations, from which he has drawn the following conclusions:—

1. There are, in what is described under the name of athetosis, two entirely distinct forms which must be completely separated; unilateral or hemiathetosis, and double or general athetosis. 2. Hemiathetosis consists of slow, exaggerated, involuntary movements, limited to the foot and hand of one side of the body, and now and then occupying the corresponding half of the face and neck. 3. To these movements are generally added transitory contractions or intermittent spasms, which are simple modifications of athetotic movements, a sort of intermediate stage between the mobility of athetosis and the rigidity of post-hemiplegic contraction. They may attack all parts of the upper extremity, but in the lower extremity they rarely pass the instep. 4. The movements are involuntary, little modified by the will, and often exaggerated by it. They persist during rest, often even during sleep, at least to the degree of fixing the limb in an abnormal position. 5. Hemiathetosis appears nearly always on the paralyzed side during the course of motor hemiplegia. 6. It coincides, in the great majority of cases, with more or less complete hemianæsthesia of the same side. 7. The other symptoms which may accompany it, namely, permanent contraction, rigidity, and atrophy, with laxity of the articular ligaments, do not depend on the athetosis, but on the hemiplegia itself. Articular relaxation in particular is specially marked. 8. Hemiathetosis resembles hemichorea; like it, it is the symptom of a cerebral lesion of some sort, without doubt in the neighbourhood of the lesion which produces hemichorea, that is to say, the fibres in front and outside of the sensory bundles at the lower part of the corona radiata (of Reil). In cases where motor or sensory hemiplegia, or both, are absent, it may be admitted that there is such a tendency to concentration, that it attacks the athetotic fasciculi at a place where the sensory and motor bundles, united at the lower part of the internal capsule, are already dissociated. 9. Hemiathetosis and hemichorea, very distinct varieties of posthemiplegic disorders, may be united by various forms of actual tremblings, transitional states in which the characters of both are blended. 10. Double athetosis presents the same clinical aspects as hemiathetosis,

except that the movements exist on both sides of the body. The face seems to be attacked more constantly and more severely than in the unilateral form. 11. It is not accompanied by any disorder of movement or of sensibility. 12. Its nature is unknown; still it may be admitted that there is between it and hemiathetosis the same relation as there is between chorea and hemichorea.—*London Med. Record*, July 15, 1878.

Concussion of the Spinal Cord; Symptoms of Localization.

M. DUPLAY (*Progrès Médical*, June 15, 1878) in a recent lecture on this subject said: I am going to address you to-day on a case which presents certain very interesting paralytic symptoms following an injury to the lumbar region. It is that of a carpenter, aged 47, lying in No. 43 of St. Augustine's ward. This strong and active man, who had always enjoyed excellent health, seven weeks ago fell from a height of about six feet, in such a manner that the pelvis sustained the entire violence of the shock. Still he was able to get up, walk, and even to go on with his work, and, excepting somewhat acute pain in the contused part, he did not feel much inconvenience at the time. That day he felt no inclination to pass urine, but the following day, twenty-four hours after the fall, he wished to do so, but found himself unable, even with the greatest and frequently repeated efforts. He then consulted a doctor, who used a catheter, and for the next three weeks his bladder had to be relieved by the same means, until after the expiration of that time urination became again possible, although requiring a great effort. The calls to micturate were very frequent, and the quantity passed was very small, the stream slender and feebly propelled. There were pains in the urethra and in the hypogastrium. For the last three weeks the urine has been turbid and slightly ammoniacal. Concomitantly with these disturbances there exists obstinate constipation, requiring enemata or purgatives for its relief. Finally, for the last six weeks there has been complete abolition of sexual power, which succeeded to a short period of excitement of the same function during the week immediately following his accident. Examination of the parts shows that there is no obstruction to the passage of the catheter into the bladder, and nothing can be felt by digital exploration of the rectum, except that its mucous membrane feels relaxed and thrown into folds, as if by want of tone in the muscular wall of the bowel. There is, therefore, atony or paresis of the walls of the bladder and rectum, a functional disturbance which we can only regard as due to concussion of the lumbar part of the spinal cord produced by the injury which the patient suffered. At the outset, we must discard all idea of a grave lesion of the cord; the bony structures present no trace of injury; the symptoms are limited to vesical trouble, constipation, and sexual impotence; the lower limbs are absolutely free from any paralysis. If there then exist a lesion of the cord, it must be very slight. It is probable that we have to do with concussion alone, analogous to that observed in the brain after an injury to the cranium, which is well known clinically, but of which much less is known concerning its pathological anatomy.

At the same time, we may distinguish two kinds of spinal concussion. 1. Under the influence of violent shocks, such as a fall from a height, or a railway collision, we see paralytic symptoms produced immediately after the injury, such symptoms varying according to the seat of the concussion. Generally, as well as the bladder and rectum, the lower extremities are paralyzed. The further progress of such cases varies; sometimes the symptoms disappear after some time, and then the case has been one of true concussion; there has been, that is to say, only a shaking, and no more or less marked structural lesion. Sometimes, on the other hand, the symptoms, instead of improving, persist, or even get worse; and as these symptoms followed immediately upon the injury, we must attribute them

also to spinal concussion, which in this instance, however, has been more violent, and has gone on to rupture and hemorrhage into the substance of the cord. Finally, symptoms of chronic myelitis may result. In this case the word "concussion" is ill chosen; we ought rather to speak of "contusion." In other cases, again, the symptoms persist without improvement or aggravation; we have in such cases to do with a localized lesion, which, undoubtedly, has determined atrophy of the nervous elements. 2. In another form of spinal concussion the symptoms do not appear until some time after the accident (railway collision). Some days, some weeks, or even some months may elapse without the patient experiencing any functional disturbance; then the symptoms of myelitis supervene. In those cases in which there is often question of damages from the railway companies, the physician may find himself beset with serious difficulties. Sometimes the patient is accused of feigning illness, sometimes the spinal symptoms are not developed till long after the accident which is said to be their cause, their dependence upon it is denied and the circumstance is considered as merely a coincidence. These legal questions have been frequently debated in England.

In our patient, the symptoms have followed immediately upon the injury; we may admit that we may have to do with the first form of spinal concussion; but in him the symptoms present some peculiarities. In ordinary cases there is, in addition to the rectal and vesical trouble, paralysis of the lower limbs. An entire segment of the cord is affected, and the symptoms are analogous to those of complete section or of transverse myelitis. But in the patient in St. Augustine's ward there is no trace of paralysis of the limbs. The paralytic phenomena have solely affected the genito-urinary organs and the rectum, in such a way that the concussion seems to have been limited to some localized spots in the spinal axis.

Can physiology give us any explanation of this peculiarity? It is well known that there are certain centres in the cord presiding over the functions of the bladder, the rectum, and the genital organs, and in this case the lesion appears to have been limited to these parts, and to have confirmed by a pathological experiment that which physiology had taught us. The vesical nerves come from two sources; the sympathetic and sacral plexus, and these two kinds of nerves are both distributed to the body and the neck of the bladder. An Italian physiologist, Giannuzzi, has demonstrated that there exist for the functions of the bladder two motor centres: the first in connection with the sympathetic fibres, is situate at the level of the third lumbar vertebra; the second, in connection with the nerves of the sacral plexus, at the level of the fifth lumbar vertebra. Excitation of the first causes slow and feeble contraction of the bladder, while excitation of the second causes, on the contrary, sharp and energetic contraction. Moreover Masius (of Liège) has discovered that there is a centre for the rectum which he calls ano-spinal, and which, in the rabbit, is situated at the level of the sixth lumbar vertebra. Finally, long ago, Budge demonstrated the existence of a centre for the sexual function at the level of the fourth lumbar vertebræ. Applying these facts to clinical study, we can admit that lesions limited to the lumbar region of the cord may affect solely the centres which govern the functions of the bladder, the rectum, and the sexual organs. In our patient, we are authorized to declare that the concussion was limited to these centres. Examples of similar localizations, after injury, are rare. In our wards we have another patient in whom we may admit equally a very localized spinal lesion, but due to a different cause. This patient, lying in No. 13, is eighteen years of age. He has a deformed foot on the right side, with atrophy of the corresponding limb. He urinates involuntarily, both by night and by day, and we have been able to assure ourselves that there exists in his case vesical paresis, and that he urinates by simple overflow. The stream is

small, twisted, propelled feebly, and if, after micturition, a catheter be introduced, a considerable further quantity of urine may be drawn off. In this young man's case, therefore, there is paralysis of the bladder, but none of the rectum nor of the sexual function. This paralysis ought to be ascribed to a spinal lesion dating from childhood, and localized in the small vesical centre of Giannuzzi. The motor and trophic affections of the lower limb are evidently due to a lesion of the anterior cornua of the cord.

Let us now return to our first patient, in whom we have diagnosed concussion of the cord. What will be the prognosis? Since the accident, there has been some improvement, as he can now pass his urine, although with difficulty, and without completely emptying his bladder; but as this improvement has made no advance for three weeks, it is to be feared that the spinal lesions are not undergoing repair, and that the functional disturbance will persist indefinitely. Moreover, you must not forget what I have told you, that the symptoms of spinal concussion, far from improving or remaining stationary, may constantly get worse; therefore it is prudent under such circumstances to reserve our prognosis.

From a therapeutic point of view we have two indications, one from the symptoms, the other from their cause. The bladder empties itself badly, the urine becomes altered, and during its stay in the bladder causes hypogastric pain: we must therefore use the catheter twice daily, and inject the bladder with tar-water (*eau de goudron*). For the rectal trouble the patient must take a laxative, or he may have enemata. But the true indication is to act upon the cord, the lesions of which are the cause of the functional disturbances; unfortunately this indication is not easy to fulfil, for if we can localize the lesions we do not know in what they consist. As there are no symptoms of inflammation there is no need to employ antiphlogistics, but rather to use revulsive means. A large blister has been already applied, and will be increased in a few days. At the same time I have practised subcutaneous injections of ergotine, in the hope of awakening muscular contraction of the bladder. With the same end in view I shall have recourse, if these means fail, to strychnia and hydrotherapy. Finally there is a last means, electricity by the constant current. Legros and Onimus contend that the direction of the current is not indifferent. They say the descending current is "hyposthenisant," whilst the ascending current has the opposite effect; it is, therefore, to this latter means that we shall resort if all the others remain without effect.—*London Med. Review*, July 15, 1878.

Lead-Palsy, and Subacute Atrophic Spinal Paralysis of Adults.

Dr. M. BERNHARDT, of Berlin (*Berliner Klinische Wochenschrift*, June, 1878), in a recent clinical lecture said the patient now before you, A. T., 49 years of age, was always healthy till the summer of 1868. A certain amount of feebleness in the right hand had been not specially noticed, and was attributed to her work (sewing very thick material). In July, 1868, her left arm began to tremble; holding a cup or spoon became troublesome. The whole upper extremity became heavy, but could still be quite actively moved. At the beginning of August, the patient, who up to that time had shown no sign of general ill-health, went to bed (washing was hanging in the room, and a window was left open), and woke next morning with complete paralysis of the left arm. After a few days, a very noticeable enfeeblement attacked the right arm also, but which at the end of the month much improved under electrical treatment, and the paralysis of the left arm receded. It soon appeared, however, that this was only *the case for a single group of muscles*, the rest remaining paralyzed and rapidly wasting. This was the condition during 1869 and 1870, during which time the electrical treatment was continued, and she remains so till the present time

(October—November, 1877), without any exacerbation of symptoms, or any other muscles having become paralyzed or wasted. The lower extremities were never involved; urination and defecation have been always normal; no affections of the psychical functions or cerebral nerves have occurred. At the present time the patient is a ruddy healthy-looking woman, and excepting the paralysis of her arm, considers herself well. The smallness and flatness of the left shoulder as compared with the right are very striking; the acromion projects forwards, and between it and the head of the humerus there is a furrow in which the index finger can be laid. The entire left upper arm is thinner than the right, especially on the flexor aspect; the forearm is over-extended on the humerus, and cannot be flexed by any effort of the patient. If you tell her to bend her left arm, she swings the whole limb upwards over her shoulder, and then the forearm falls of its own weight on the humerus. The arm bent by this means can be actively extended. If we partially bend the forearm upon the upper arm, and then ask the patient to continue the movement, by a great exertion she is able to do so, but this is effected by the flexor carpi ulnaris and flexor digitorum profundus, which can be seen and felt to contract. Supination of the left forearm is not possible; if the arm be passively supinated, pronation is readily effected. The movements of the left hand and fingers are in every respect free. The hand is a little curved, and the skin bluish-red, but no œdema or eruption is present. There is no atrophy of the interosseous or thenar muscles. The arm can be raised from the shoulder in spite of the visible atrophy, and the clavicular fibres of the deltoid can be seen to contract; adduction, internal and external rotation, and drawing back, of the arm are all well performed, although the last is not quite so perfect as on the right side. The right arm is quite normal, except a distinct atrophy of the ulnar side of the extensor aspect of the forearm, which is associated with inability to completely extend the fingers; the basal phalanges of the thumb and index finger being alone perfectly extended, the remainder persisting in a state of half flexion, in spite of the strongest voluntary efforts; the middle and ungual phalanges of the same fingers being, however, as perfectly flexed and extended as in health. She feels a certain subjective sense of weight in the left arm, but no more definite affection of sensation is present. Electrical examination gives the following. In the right arm, the muscles all react well to direct and indirect stimulation, except the extensor communis digitorum, which does not extend the three fingers above mentioned; the extensor carpi radialis reacts more feebly than normal, although its contour is prominent. In the left arm, the deltoid reacts only near its origin from the clavicle; the biceps and both supinators are absolutely without reaction; it is questionable whether or not some intact fibres of the long supinator exist in the upper arm, where it is covered with fat. All the other muscles of the arm, forearm, and hand react to both direct and indirect stimulation. Placing an electrode on the point mentioned by Erb as that from which it is possible to stimulate both the biceps and long supinator together (at the exit of the fifth and sixth cervical nerves between the scaleni) gives a marked reaction of the muscles in question on the right side, but remains without effect even with much stronger currents on the left. With the anode of the constant current on the neck, and the cathode on the right deltoid, a feeble contraction occurs with 22 cells, while on the left side 30 cells produce only a quick twitching of the clavicular fibres, the bulk of the muscle remaining un-excited; with 33 cells the remainder of the left deltoid reacts. The left biceps does not contract, the right contracts with 13 cells. By stimulating the right radial nerve with 20 cells, there is short quick movement in the index finger and thumb. The muscular fibres of the extensor communis, from the three outer fingers of the right hand, do not react to direct or indirect stimulation. All the muscles of the left

arm, innervated by the radial nerve, contract with 20 cells, except the supinators. We have, in the case before us, paralysis and atrophy of the deltoid, the biceps and brachialis anticus, as well as of both supinators on the *left* side, and a part of the fibres of the extensor communis digitorum of the *right* side.

Before commenting on this case, I will briefly relate the other.

J. W., aged 29, a painter, has been sixteen years at his work, and during the first ten years had occasionally violent colicky pains in the abdomen, but no special illness. Four years ago he had an attack of colic which lasted longer, and left a sense of weight in his arms, but from which he completely recovered. A new attack of colic in August, 1877, threw him on his back; after a few days the pains ceased, and he felt better; but one night, without any affection of the sensorium, paralysis of both hands and fingers supervened, which I will describe more exactly. *The shoulders and the upper arm remained freely movable.* The patient was a moderately well built, rather thin, at the present time pale and cachectic-looking man, with a marked pigeon-breast. His gums were livid, and showed a decided trace of blue line. His mental condition was normal, he walked without difficulty, showed nothing special in the sense-organs or in the cerebral nerves; his general condition was satisfactory; defecation and urination were normal. The condition of the hands and fingers of the patient, which in consequence of lead-poisoning presented a paralysis of the extensors of the hands and fingers (*i. e.*, of their basal phalanges) has been so often described, that I will not dwell further upon it. Extension of the forearm on both sides was free; equally, flexion of the forearm on the upper arm, with swelling of the contour of the biceps, was well effected, and both arms could freely execute all the movements of the shoulder-joint. The first interosseous space was not only sunken, as is often seen, but there was decided atrophy of the ball of the thumb, and on both sides the interosseous spaces were sunken, and the interosseous muscles were atrophied, and incapable of function, so that the lateral movements of the fingers and the extension of the middle and ungual phalanges were not possible. The hypothenar eminences were also diminished in both hands. There was also paralysis of the muscles supplied by the radial nerves on both sides, and of some of those supplied by the median and ulnar nerves. But these undoubtedly interesting phenomena pass into the background when we consider the results of electrical exploration. With the induced current, of the muscles supplied by the radial nerve, on the left (the less affected) side, only the extensor carpi ulnaris and supinator longus react but very feebly; all the other muscles remain unaffected, and these by direct and indirect stimulation. On the other hand, the muscles supplied by the ulnar and median nerves on the left side contract very forcibly to both direct and indirect stimulation, but the adduction of the interosseous and thenar muscles was very feeble, or almost *nil*. The same, only more marked in failure of reaction to the induced current, is the case on the right side; even with the strongest currents the supinator longus, a muscle which usually remains intact in lead-poisoning, scarcely displays its contour, and in the feeblest outline the tendons of the extensor carpi radialis, longus et brevis display themselves, but without producing any corresponding movements. It cannot be said that these results are very surprising, except as regards the diminished excitability of the supination; but it is remarkable *that muscles, which have their functions quite unimpaired, and are used at will by the patient, and of the action of which he has never complained, should react either not at all, or only in the smallest degree, to the strongest induced currents.* This is the case for both the deltoids (except the clavicular portion), for the biceps and brachialis internus. With the constant current, the deltoid, biceps, supinator longus, and the extensors of the hands and fingers on both sides, with

strong currents (30 to 40 elements) give only fibrillar twitchings; in fact, we have in the paralyzed, as well as in the unparalyzed muscles, the most marked degenerative reaction (*Entartungs-reaction*).

If we fix our attention on the case of the woman A. T., we must ask ourselves what is the condition with which we have to do. Both upper extremities seem to have been simultaneously affected by muscular enfeeblement, which improved and left only particular muscles affected. These atrophied with loss of their electrical excitability; and we are led to regard it as analogous to "infantile paralysis," an acute or subacute atrophic spinal paralysis of adults. It is all the more probable, as both extremities were affected, and the paralysis and atrophy have attacked different groups of muscles in the two arms, as it does not accord with our experience to find peripheral paralysis affecting simultaneously one and the other arm, and in distinct nerve areas. On the other hand, we know, and I have myself reported a case, that acute atrophic spinal paralysis, like that of children, can affect individual groups of muscles and lead to their atrophy. Until we have some *post-mortem* evidence, we cannot disprove or altogether quite invalidate the objection that we may have to do with a peripheral paralysis in such cases. Unless I am deceived in my acquaintance with literature, I was the first to give expression to this idea. In spite of the want of precision in the data and the uncertainty of the facts, it is permissible, in face of the strikingly similar affection of the cord in children, to expect an analogous change in the cord of adults, and to accept the anterior horns as the seat of the lesion. But I leave this question for further evidence from future careful microscopical examinations of early acute cases in adults. It is of quite special interest in this case that on the left side the muscles were paralyzed and atrophied, which seem to be supplied by nerves from the fifth and sixth cervical roots. Were we in this case to suppose a lesion (whatever its nature may be) of the cervical cord and in that of its gray matter, then we must suppose it to affect a quite limited group which send their axis-cylinder processes into the anterior roots. These then should be the cells from which the nerves for the deltoid, brachialis internus, biceps, and supinators arise. If we turn now to the observations on our second case of chronic lead-palsy, we have before us the striking paralysis and atrophy of the hand and finger extensors, of the interossei, and of the thenar and hypothenar eminences. Unusual here is the implication of the median area (thenar muscles), unusual, also, the paralysis and atrophy of the interossei, so seldom, indeed, that Remak refers in his work on the "Pathogenesis of Lead Palsy," to a case published by him as unique, in which the supinators participated unmarkedly in the paralysis. In Remak's case there was also paralysis of the deltoid, biceps, and brachialis internus, which latter, by superficial examination of our case, could not be seen; the arm could be moved at the shoulder in all directions, and flexion at the elbow-joint was also quite free. But since we have learnt from Erb that a muscle which is not paralyzed, and never has been paralyzed, may by electrical examination be recognized as diseased, I have held it my duty in every case to undertake this examination, and in this case it gave the most decided evidence of disease in active freely movable muscles, in that they did not react, or did so in the least degree, to very strong induced currents, and with the constant current gave the most decided degenerative reaction (Entartungs-reaction). Diseased were also in this case, not only the supinator, but the deltoid, the brachialis internus, the biceps, in a word, all those muscles which functionally are connected, which by disease can indicate functional incapacity in quite definite nerve-roots, which, as we in the observations on the first case saw, can become diseased and paralyzed without lead-poisoning or any other cause (cold, etc.) than the before-mentioned changes in a quite limited section of the spinal cord. Similar observations were those

which led Remak, Erb, and myself to accept as the pathologico-anatomical basis of so-called lead-palsy a disease of the gray matter of the cord, and I believe that both cases just related, and placed side by side, present a new support to this view, if not amounting to proof, at least importantly strengthening it. But the interest of the last case is not exhausted. It was only by careful electrical examination that the diseased state of the muscles was discovered, right as well as left were freely movable. It was Erb who first pointed this out, and advanced the hypothesis that different trophic centres in the cord exist for nerve and muscle, which in given cases may be singly affected by disease. In our case (lead-palsy) on the right side, if we take for instance the right deltoid and biceps, there were no paralysis, inexcitability (or at least much diminished excitability) by indirect (above the clavicle) irritation, as well as by direct stimulation with the induced current, very much diminished excitability by indirect stimulation with the constant current, marked degenerative reaction by direct stimulation with the constant current. On the left, most of the nerves and muscles were normal, both for voluntary motion and direct and indirect stimulation with both currents, and only single muscular fibres showed by direct stimulation the degenerative reaction, a condition which Erb had observed in some cases of progressive muscular atrophy. If we regard the facts thus disclosed in my cases, we see no proof of the truth of this hypothesis of separate centres in the spinal trophic apparatus for muscles and nerves. In an essay which I published at the end of my first paper on the later christened "middle form" of paralysis, I maintained that it is conceivable that the pathological irritant affects the muscle itself, perhaps with the inseparable nerve-ending; but it leaves this latter either unchanged, or only so affected that, as may be found in the later stages of recovery from very marked paralysis which has produced pathological changes in the muscle itself, and which leads to increased excitability and abnormal reaction to the galvanic current, without even destroying this, the irritation of the induced current or of volition is absolutely not obeyed.

There is still another hypothesis which Wernicke has recently proposed respecting these interesting phenomena. In a case of facial paralysis in which the nuclei of the medulla oblongata were destroyed by a tumour, a number of the nerve-fibres were quite intact. He says, "It appears that, if a certain number of the nerve-fibres are preserved, the faradic and galvanic excitability, especially for the minimum of contraction, may not be notably diminished, but only the total contraction with stronger currents must be much less, as only the primitive muscular bundles supplied by the preserved nerve-fibres are excited. The excitability of the muscle by direct irritation with the faradic current must be more diminished, as in this case the electrode encounters the preserved nerve-fibres singly. While the greater part of the muscular bundles which are connected with degenerated nerve-fibres suffer under the recognized changes of excitability, namely, the increase of direct galvanic excitability, and modification of the force and manner of contraction; by their overwhelming number the degenerated fibres must manifest the changed muscular reaction, yet a smaller number of the same may not be observable because the scattered diseased fibres can make no movement. The so-called middle form of rheumatic facial paralysis is distinguished from the severe form by the exemption of certain groups of fibres, while in the latter (the severe form) the whole mass is affected; the numerical relation of the healthy to the diseased fibre is given approximately by the electrical examination. This explanation permits us to say that some diseases of nerve-nuclei, in which single cells and fibres are affected together, will present this middle form of change of muscular excitability; and Erb has related two such cases, one of progressive muscular atrophy, the other of lead-palsy, in which in the later stages an

affection of the nuclei appeared probable." Whether now this hypothesis of Wernicke is the true explanation of these phenomena (it allows us, as we see, to dispense with special trophic centres for nerve and muscle) or Erb's, or whether for particular cases, as I have sought to make it probable, a direct affection of the muscle can give rise to such phenomena, I leave undetermined. The definite solution of these highly interesting questions requires accumulated observations on living patients, with deductions carefully made, regard being had to all the possibilities, and, where possible, by experiments on animals.—*London Medical Record*, July 15, 1878.

—

The Cause of Distortions in the Spinal Paralysis of Children.

Dr. A. SEELIGMULLER of Halle (*Centralb. f. Chir.*) draws some conclusions on this debated point, from an experience of over seventy cases, and supports that view which attributes the original distortion to the action of the unparalyzed antagonistic muscles, in opposition to that which ascribes it to merely mechanical influences, apart from such muscular action—the view ably maintained by C. Hüter and R. Volkmann.

S. employed the induced current to distinguish paralyzed from unparalyzed muscles, and remarks that such an examination only indicates the state of the muscle or muscles at the time being, but does not allow of any certain conclusions with regard to a former condition of these structures, and moreover, insists that *only recently examined* cases afford incontestable proof for or against the antagonistic theory. He states that he has observed various forms of fixed talipes four weeks after the occurrence of paralysis, and affirms that the cases adduced in favour of the mechanical theory have not been sufficiently recent, as the patients had already used the limb in walking.

As showing the combined influences of muscular and mechanical force, S. narrates the case of a girl, two years of age, who, after an acute illness, exhibited paralysis and atrophy of those muscles of the right forearm supplied by the median and ulnar nerves, while the territory of the radial nerve remained normal. About eight months after paralysis, the consequent deformity was well-marked extension (dorsal flexion) of the wrist-joint and proximal phalanges of the four fingers, producing the appearance of a "griffin-claw." If, however, the forearm was held in a horizontal position for a time, the hand gradually sank into a position of anterior flexion at the wrist, while the extension of the phalanges persisted. In short, S. considers that the direction in which a deformity takes place is *primarily* imparted by muscular action, and that the mechanical influences of weight and the gravitation of the body only operate *secondarily*.—*Edinburgh Medical Journal*, Aug. 1878.

—

Acute Ascending Paralysis.

M. DEGERINE has announced to the Académie des Sciences the observation of changes in the anterior roots of the spinal nerves in cases in which a careful naked eye and microscopic examination revealed no lesion of the spinal cord. The method of examination employed was the hardening in osmic acid, and examination by means of picrocarmin. In each preparation a number of nerve-tubules presented the appearance of parenchymatous neuritis, fragmentation of the myelin in drops and droplets, an increase in the protoplasm of each interannular segment, and multiplication of the nuclei of the sheath. In some of the tubules so changed the axis-cylinder had entirely disappeared. Most of the nerve-tubules presented no appreciable alteration. The same appearances were observed in each part of the cord. A similar alteration of some of the nerve-tubules was found

also in the intra-muscular nerves of the paralyzed limbs. Attention is drawn to the point without much weight being laid upon it, and its relation to the disease may admit of some doubt when we consider how small a proportion the few degenerated tubules bear to the great amount of paralysis.—*Lancet*, Aug. 3, 1878.

—

Alleged Cure of Tubercular Meningitis.

EVERY physician must now and then have met with cases in which a diagnosis of tubercular meningitis has been made, and yet, where recovery has resulted. When the case has so fortunate an issue, he doubts the correctness of his diagnosis in pinning his faith on the notion that true tubercular disease of the membranes of the brain must inevitably terminate in death. Such, however, is not the universal belief, if one may judge from a case recently recorded by M. Cuffer in *La France Médicale*, where it is claimed for iodide of potassium that it cured tubercular meningitis. The subject of this paper was a man thirty-four years of age, who was admitted into La Pitié, under the care of Prof. Peter, on April 17, 1877, with a history of having three days previously, whilst at work, been attacked with severe headache, which had been followed by obstinate constipation and retention of urine. He had never had a similar attack to this, and on admission the following group of symptoms was noted: intense frontal headache, with intolerance of light; pupils equal; strabismus; rigidity of muscles of neck; constipation, nausea, retention of urine, slowing of pulse (54), suspirious breathing, cramps in the limbs, and a well-marked *tâche meningitique*. He was continually groaning. The temperature was 98.6° F. These symptoms pointed to meningitis, and its nature was presumed to be tubercular by the detection of dulness, with jerking respiration at the apex of the left lung. This diagnosis arrived at by M. Peter, after exclusion of all other hypotheses as to the origin of the meningitis, appeared to be borne out by the progress of the case. The symptoms increased in intensity, delirium set in, and the patient's cries became more frequent and loud. The pulse fell to 50 beats per minute; the breathing was very harsh below the right clavicle, and emaciation rapidly set in and became very marked. On the 23d the constipation continued, in spite of the administration of calomel; the prostration was extreme, the pulse small and thready, the pupils unequal, strabismus more marked. The patient was thought to be moribund. M. Peter then prescribed iodide of potassium in half-drachm doses. For three days there was but little change; then slight improvement set in, so that (still under the same treatment) in rather more than a fortnight the patient was able to get up. His appetite was good, and sleep undisturbed. The strabismus remained, and there was still some headache, but the graver symptoms had entirely subsided. The pulmonary signs, however, were rather more pronounced, some dry crepitant râles being detected below the right clavicle. He was considered to be cured of the meningitis by the 24th of May, but the same amount of the iodide was still continued daily. The case is given without comment, and it is only to be regretted that the details are so meagre. At any rate, as twelve months had elapsed before the time of the patient's discharge from the hospital and the publication of the case, it would have added much to its interest had the author appended some statement of the man's condition in the interval. It may be added that the idea of syphilis was suggested, only to be set aside; for, although the patient had contracted a chancre some years before, he had never exhibited any manifestations of the disease. The published record, however, is so incomplete that it can hardly be held to justify the inferences drawn from it, and we have quoted it here as a warning against too hasty deductions in therapeutics based upon the insecure data of a doubtful diagnosis. Fully admitting the good effect of the

drug in producing the amelioration of the symptoms, it requires more evidence than is here given to admit also that the meningitis was "tubercular."—*Lancet*, August 3, 1878.

—

Mumps and Parotidean Orchitis

Prof. LAVERAN, of the Val-de-Grâce, recently read a communication to the Hospital Medical Society (*Gaz. des Hôp.*, No. 56) in answer to a question asked by Dr. Besnier in one of his sanitary reports as to the frequency of the occurrence of parotidean orchitis and the subsequent wasting of the testicle, and as to the prophylactic measures likely to prevent these accidents. It is impossible to reply exactly with regard to the frequency of the occurrence of mumps in the military hospitals, as the statistics of these establishments do not include it; but it may be stated generally that small epidemics of the affection often occur. In 432 cases of mumps observed among soldiers in very different localities, there were met with 156 examples of single or double orchitis, so that this complication may be said to occur in two out of five cases in adults, although it is very rarely met with in epidemics occurring in schools. The orchitis usually occurs from the sixth to the eighth day after the appearance of the mumps, just as the swelling of the parotid is beginning to disperse. Attributing this to metastasis is out of the question, for the mumps does not subside any more rapidly in the cases in which orchitis occurs than in others, while it may arise spontaneously, unpreceded by any affection of the parotid. Although in some epidemics double orchitis has been observed oftener than single, as a general rule one case of double is met with for five or six cases of single. The degree of inflammation of the testicle is as variable as is that of the parotid, chiefly affecting the substance of the testicle itself, the epididymis suffering only in a less degree. By the fourth day the testis has increased two or three times in size, and is very hard and very tender to the touch. Resolution soon takes place, and there is in general no effusion into the tunica vaginalis. Unfortunately, however, the disease frequently terminates in atrophy—a condition which has often been overlooked in civil practice, in which the patients are not so long under observation as soldiers; and the atrophy does not take place sometimes until weeks or months after. In 111 cases of parotidean orchitis, atrophy occurred in 73—*i. e.*, in seven out of ten cases. When atrophy affects both testicles, which is rare, complete impotence ensues; and when only one testis is affected a considerable diminution of virile power occurs. Sometimes the atrophy is arrested, and the testis recovers its normal size and consistency; but in general it persists, and not infrequently the other testis undergoes a compensatory hypertrophy.

With respect to prevention, M. Laveran believes the contagiousness of mumps to be amply demonstrated, and that the disease offers the same specific characters as the eruptive fevers. Isolation is therefore indicated, at least as regards adults. As soon as soldiers are affected with mumps, they should be sent to hospital, and not allowed to mingle with the other patients there. As to preventing the disease localizing in the testis, no means are known, all that can be done being to recommend rest.—*Med. Times and Gaz.*, July 20, 1878.

—

Case of Bilateral Paralysis of the Dilator Muscles of the Glottis (Posterior Crico-Arytenoid): Recovery.

In the *Berliner Klinische Wochenschrift* for June 17th, Dr. MESCHEDE, of Kœnigsberg, gives the details of a case of paralysis affecting the dilator muscles of the glottis, of which the following is an abstract:—

Paralytic affections of the larynx are now divided into two groups—vocal and

respiratory. The muscles affected in the latter group are the posterior crico-arytenoid pair, which serve to open the glottis, and are in this respect opposed by the lateral crico-arytenoid pair. While cases belonging to the former group —the vocal—are not uncommon, those belonging to the latter group, especially those involving both posterior crico-arytenoids, have hitherto been exceedingly rare. Moreover, of the cases hitherto recorded, some appear to have been cases of only partial paralysis, while in others the diagnosis was scarcely conclusive. In the present case, the existence of complete paralysis of both posterior crico-arytenoid muscles was clearly established. The laryngoscopical conditions have been figured in Bürow's *Atlas of Laryngoscopy*, Table x. Fig. 6. The patient was a girl aged 19, and was stated by her mother to have been unable to speak for the last two months; there was some bloody expectoration, but no signs of lung-disease could be made out; deglutition, though at times somewhat slow, was not impeded. The prominent affection was the difficulty of respiration. When the breathing was undisturbed, it was noisy and somewhat laborious, inspiration being specially difficult. But on the least exertion there was great dyspnœa, and each inspiration was accompanied by a loud howling sound. Respiration generally was retarded, the pulse small and quick. Menstruation, which had always been irregular, had ceased for several months. Examination with the laryngoscope was exceedingly difficult, being rendered still more so by impeded and diminished mobility of the tongue. When examined while respiration was calm, the vocal cords remained stationary, the glottis not expanding with inspiration. But when respiration became accelerated from agitation or any other cause, the condition of the vocal cords became reversed; they became closely approximated during inspiration, instead of separating, so as to come almost into contact. At the same time they were not tense, and it was seen that they were drawn downwards and together by the current of inspired air. That this was not a case of spasm of the glottis was evident, seeing the dyspnœa did not occur in paroxysm, but every time that respiration was in any way accelerated, when also the vocal cords became immediately approximated; moreover, the dyspnœa was of too long duration. Had this condition of the larynx not been observed, the case might have been regarded as one of hysterical simulation; but paralysis of the dilators of the glottis can never be simulated. Nevertheless, it was interesting to note the effect of an audibly threatened use of the actual cautery if the patient did not speak by a certain time; for, some little time before the appointed day, she began to articulate somewhat imperfectly, while on the actual day, and within sight of the heated cautery, speech became almost natural, showing how undefined may become the boundary line between hysteria and stimulation. No real improvement was, however, attained, and the dyspnœa became so great as to suggest at times the idea of tracheotomy. For the first six days after her admission to the hospital, the treatment consisted entirely of local faradization, without the slightest benefit, and of warm baths and cold affusion, with the result that on the eighth day menstruation became re-established. A regular treatment, consisting of systematic subcutaneous injection of strychnia, was now commenced, the salt employed being the soluble sulphate, in a one per cent. solution. The amount injected was at first small (.015 grain), and produced no results, thus showing incidentally that the later beneficial results were due not to the mechanical and psychical effects of the punctures, but to the larger quantities injected. The amount of strychnine sulphate was now gradually increased up to .07 grain, and this increase was from the first attended with marked improvement. At first, the injections, which were given morning and evening, were followed by sound sleep and increased freedom of respiration, which latter was of short duration at first, but gradually became more established, until, after the injection had been employed nineteen times, breathing remained and continued entirely free.

After a period of four months there was a slight relapse, which readily yielded to the same treatment.—*London Med. Record*, July 15, 1878.

—

Case of Fatty Effusion into the Pleura (Hydrops Adiposus Pleuræ).

The following unusual case is communicated by Dr. BOEGEHOLD of Berlin to the *Berliner Klinische Wochenschrift* for 17th June. The patient, a man aged forty-three, was admitted on the 16th January last into the Bethany Hospital, suffering from dyspnœa without pain, and very much reduced in condition. In the previous September, he had vomiting, pain in the stomach, constipation, etc., which lasted for upwards of two months. The patient presented now a cachectic appearance, pale, flabby skin and mucous membranes, with the axillary and inguinal glands enlarged, many to the size of a walnut; there was extensive effusion into the left pleura, with the usual signs, arching of the thorax, obliteration of the intercostal spaces, dulness, etc. The heart was also displaced upwards and to the right. On the following day the effusion had increased considerably. A puncture was therefore made in the fifth intercostal space, and a *litre* (about a pint and three-quarters) of fluid withdrawn, which was alkaline, opaque, dark yellow, and inodorous, with a specific gravity of 1023. On standing for about half an hour, there formed on the surface of this fluid a thin, yellowish, creamy layer, which also collected on the sides of the glass. Examined with the microscope, these were found to consist of fatty granules, intermixed with larger fat-globules and some large nucleated cells. On agitating the fluid with ether, this assumed a yellow colour, and there remained after evaporation an oily residue. The patient now experienced great relief; but, after a few days, the fluid collected again and had to be again removed, when two litres of a dark brown alkaline fluid mixed with blood were evacuated. About a week afterwards the fluid had to be withdrawn for the third time; after which, on the next day, the patient died. At the subsequent necropsy, the left pleural cavity was found to contain two litres of reddish-brown fluid; the right one was empty. The left lung was reduced to one-third its size; its pleural covering grayish, somewhat thickened, and covered with minute reddish-gray points; the left costal pleura was thickened, much discoloured, and dotted with gray or yellow prominences of various sizes from a pea to a shilling, the apices of which were flat and ulcerated. The right lung was much enlarged, nowhere adherent; while the right pleura, costal as well as pulmonary, was dotted with the same elevations of various sizes as the left, which, however, were nowhere ulcerated. The stomach presented about its middle a constriction admitting only two fingers; on its posterior wall there was a funnel-shaped depression, at the bottom of which was a ragged ulcer of the size of a sixpenny-piece, with hard edges. This portion of the gastric wall formed, with the pancreas and the surrounding mesentery, a hard solid tumour as large as an apple, which presented a yellowish-white surface on section. In the immediate vicinity of the common duct existed several hard tumours as large as hazel-nuts, and presenting the same appearance on section; while several of the mesenteric glands showed a similar condition. Examination of these growths with the microscope showed the usual appearances of carcinoma. In several places, near the pleura and the lymphatic glands, the large cells contained oil-globules. In the gastric tumour, the cells had almost wholly undergone fatty degeneration, and were imbedded in an abundant stroma. We must, therefore, look upon the tumour of the stomach, the cells of which had undergone the greatest degeneration, as the primary affection, which gave rise to further morbid processes in the surrounding tissues. The ulcerations on the pleura were found to consist mainly of granular matter and large cells containing fatty globules; and

the fatty granules collected on the pleural fluid must therefore be regarded as the *débris* of broken-down cancer-cells which had undergone fatty degeneration. A similar case is described by Quincke (*Archiv für Klinische Medicin*, vol. xvi. p. 121) of carcinoma in the peritoneum, with dropsical effusion containing large quantities of fatty matter.—*London Med. Record*, July 15, 1878.

—

Pulmonary Œdema.

Under the direction of Cohnheim, a series of experiments have been made by Dr. WELCH of New York (Virchow's *Archiv*, Band lxxii.) for the purpose of obtaining information with regard to the causes of œdema of the lungs.

After reviewing the various causes of œdema as given by Niemeyer and Hertz, he concludes that none of them are sufficiently explanatory. He sought to learn from experiment whether pulmonary œdema might arise from passive congestion, which was brought about by the ligature of several branches of the aorta. These experiments furnished a positive result, although such a degree of arterial obstruction became necessary for this purpose as could scarcely occur in man.

In the attempts at causing œdema by ligature of the pulmonary veins, it was found that all the veins from one lung might be tied and no œdema result. The lung became gorged with blood, but not œdematous. That œdema might arise, it was necessary to tie also the veins from the upper and middle lobes of the other lung.

Hence he concludes that the mechanical causes of œdema are much more severe than those occurring in the vast majority of cases of acute general dropsy of the lungs in man. It seemed probable that œdema might arise if a misproportion existed between the action of the two ventricles, in consequence of which the left ventricle should expel in a given time only a portion of the amount of blood which the right ventricle forced into the pulmonary artery, such as might arise from paralysis of the left ventricle. Such a paralysis was produced by compression of the walls of the ventricle, and pulmonary œdema followed. When the right ventricle was paralyzed, no œdema ensued.

The immediate cause of pulmonary œdema is therefore considered to be a predominant weakness of the left ventricle. Favouring causes may be found in collateral hyperæmia of one lung when the other is hepatized, in passive congestion dependent upon mitral stenosis, and in hydræmia consequent to Bright's disease. But when these favouring causes are present the œdema does not always follow; another factor must also exist. If both sides of the heart become alike enfeebled during the death-agony there is no œdema, although this event takes place when the left side is more rapidly and more completely paralyzed. The hypothetical nature of this explanation is fully recognized, and the possibility of its proof in the case of man is doubted.—*London Med. Record*, July 15, 1878.

—

Absorption of Foreign Bodies by the Lungs.

RAPPERT (Virchow's *Archiv*, Band lxxii.) describes the results following the absorption of soot by the lungs. He endeavoured to eliminate some of the complications resulting from the methods adopted by other experimenters, especially by Slavjansky. His investigations were directed towards ascertaining the alterations produced in the epithelium of the air-passages as well as in the sub-epithelial tissues, when air containing particles of soot was inhaled. He also sought for the channels by which the soot particles were received into the interstitial tissue, the force causing them to enter, and the condition in which they were while entering, whether as free particles or inclosed within cells.

By causing the animals to inhale air laden with soot from an ordinary petroleum

lamp from which the chimney was removed, he obviated the introduction of material capable of producing chemical changes. It was found that the particles were taken up in part by the alveolar epithelium and in part entered the tissue. The former gave rise to such alterations in the cells that a subsequent desquamation of them took place.

In general, the soot passed directly into the tissues, and only to a very limited extent by means of amœboid cells. After it had entered the tissues, it was always found within certain portions of the lymphatic system. It could not be accurately determined through what channels this entrance took place, although it seemed most probable that such were present between the epithelial cells, and that the lymph-currents furnished the force by which the particles were carried along.—*London Medical Record*, July 15, 1878.

—

Acute Aortitis.

Dr. LEGER, in a work on this subject (*Gazette Médicale de Paris*, May 25th, 1878), gives a complete sketch of the characteristic features of this disease. In the chapter on pathological anatomy, he says that the lesions may extend as far as the iliac arteries, but are most marked in the ascending part of the arch of the aorta. The walls are thickened and present ecchymoses and soft grayish patches. The inflammation may spread to the serous membrane surrounding the origin of the aorta, and may cause pericarditis and neuritis of the cardiac plexus. Microscopic examination shows that the soft patches are composed of masses of fusiform embryonic cells, being circumscribed in the internal coat and diffused in the two others. Dilatation of the arterial wall occurs at the diseased spot, and is followed by aortic insufficiency and cardiac hypertrophy.

The chief exciting cause of the acute inflammation is atheroma. Among the predisposing causes are gout, alcoholism, fatigue, cold, and external injuries. Rheumatic endocarditis may cause it by continuity of tissue; it may appear in fevers or in purulent infection. The symptoms which are most prominent are the earthy appearance of the patient, attacks of oppression with præcordial pain, special disorders of the heart and arteries, occasional sudden death during angina pectoris; usually there is no feverishness. The pain varies from a mere sense of weight to a feeling of laceration and retro-sternal burning. The pulse is exaggerated by cardiac hypertrophy, or small in consequence of dilatation at the origin of the subclavians. The heart is generally hypertrophied; there is a murmur with the first sound (dilatation of the arch) or with the second (aortic insufficiency). The complications which are most frequent are pericarditis, pulmonary oppression, inequality of the pupils, delirium, etc. The usual termination is death; in bad cases it occurs after several attacks of angina pectoris, or it may happen during syncope. In other cases the attacks come on at long intervals, and the patient dies from cachexia. The duration varies from several days to three or four months. The diagnosis is based on the character of the pain, and the constant presence of pericarditis. It is difficult when mitral insufficiency or aneurism of the aorta coexist. Angina pectoris without aortic lesion is less serious; sometimes it cannot be distinguished from aortitis. The prognosis is grave, although recovery is not rare; it depends on the preceding health and on the complications. As to treatment: for the pain, ice, narcotics, and antispasmodics may be given; for the heart-symptoms, digitalis, milk diet, etc. The iodide of potassium has appeared to be of some use.—*London Med. Record*, July 15, 1878.

Syphilitic Arteritis.

Dr. PAUL BAUMGARTEN (Virchow's *Archiv*, Band lxx., Heft 1), on the grounds of certain experimental researches into the process of obliterative arteritis, opposes the view of Friedländer and others that the new growth in the lumen of the vessel is entirely derived from the wandering cells from the vasa vasorum; he contends, on the contrary, that the epithelioid tissue swells and proliferates to form an indifferent embryonic tissue. He describes the microscopic appearances he found in a case of syphilitic inflammation of the middle cerebral artery; and while agreeing in the main with Heubner as to the facts, he denies any specific character to the growth in the lumen, which he characterizes as consisting of the ordinary indifferent tissue found in all cases of obliterative arteritis; but he admits that the affection of the outer coats presents the histological features of gumma, and so far he admits that we are justified in regarding the affection as syphilitic, although the process of obliteration takes place in the same manner and by the same means as arteritis of non-specific origin, namely, by the growth of indifferent tissue originating in the epithelioid lining.—*London Med. Record*, July 15, 1878.

—

Changes in the Small Bloodvessels in Bright's Disease.

Dr. A. EWALD has lately published in Virchow's *Archiv*, Band. lxxi., the result of a long investigation on the above subject. Like Dr. George Johnson, and Drs. Gull and Sutton, he microscopically examined the vessels of the pia mater covering the pons in a considerable number of cases of various forms of nephritis; but he was unable to discover those alterations of the arterial coats which the latter authors have described as "arterio-capillary fibrosis," whereas he was able to confirm Johnson's statement that the muscular coat of the arterioles is hypertrophied in the great majority of the cases of contracted kidney associated with cardiac hypertrophy. Ewald regards the "hyaline-fibroid" arterial degeneration of Gull and Sutton as mainly the result of their method of microscopical preparation. He found that the normal relation of the lumen of the arterioles to the section of their coat is as 1 : 0.1—1.3, and he assumed that there was hypertrophy present when this relation rose to 1 : 0.5—1.2. The alteration in the muscular coat which gives rise to the hypertrophy consists, according to Ewald, in a simple enlargement of the normal cells and of their intercellular substance. Ewald has tabulated sixty-two cases of renal disease in which the condition of the heart, the vessels, and the kidneys was carefully noted at the post-mortem examination. The general conclusion arrived at is, that hypertrophy of the heart and the arterioles is most frequently met with in the advanced forms of granular contracted kidney, though the relationship between the two conditions is an intimate one in all the stages of interstitial nephritis. In those cases where interstitial and parenchymatous (epithelial) degeneration occur in combination, though the former change predominates, two-thirds of the cases present cardiac and arterial hypertrophy, and one-third cardiac hypertrophy only. On the other hand, where the parenchymatous degeneration prevails over the interstitial, all the cases are accompanied with hypertrophy of the heart, and none with that of the arterioles. The cases of pure parenchymatous degeneration, sixteen in number, which Ewald examined, were all free from vascular change, and somewhat less than a third of them were associated with simple hypertrophy of the heart. Nephritis, secondary to such diseases as phthisis, leukæmia, and heart disease, was, as a rule, unassociated with hypertrophy of the muscular coats of the arterioles. Ewald agrees with those English authors who assert that both ventricles of the heart are not unfrequently hypertrophied in interstitial nephritis, the right ventricle, ac-

cording to him, being affected in half the cases. He explains this fact by the protracted course of the disease, and he points out the analogy to cases of unilateral valvular lesion, where the dilatation of the left side of the heart finally extends to the right.

The theoretical explanation of the hypertrophy of the heart and of the coats of the arterioles to which Ewald inclines is the following: The blood becomes altered in its composition by the renal disease, and excites increased resistance in the capillaries. Increased tension in the arterial system is the result, and then first hypertrophy of the heart, and later on arterial hypertrophy. The latter he regards as of purely mechanical origin, and dependent on the persistently increased contraction of their muscular coats which is necessary to prevent their extreme dilatation under the abnormally high lateral pressure to which they are subjected. He believes that this contraction of the arterioles is not dependent on the influence of the vaso-motor centre. The reason why hypertrophy of the small vessels is absent in renal disease complicating heart disease, in atheromatous degeneration of the large bloodvessels with cardiac hypertrophy, and in uncomplicated valvular disease, is probably that here the arterial tension is not *uninterruptedly* high, as it is in interstitial nephritis with contracting kidney.—*Med. Times and Gazette*, July 27, 1878.

—

Chronic Interstitial Nephritis.

Dr. SENATOR, of Berlin (Virchow's *Archiv*, Band lxxiii., Heft 1) reviews our present knowledge of this disease. He more especially draws attention to the hypertrophy of the heart which, he says, is frequently unaccompanied by dilatation, and is, therefore, not recognizable in many cases during life or in certain stages. He does not attempt to settle the vexed question of the changes in the arterioles, but inclines to the view of Ewald and Thoma, that they may be regarded as coming under the general class of conditions described by Friedländer as endarteritis obliterans.—*London Med. Record*, July 15, 1878.

—

The Diagnosis of Amyloid Kidney.

In spite of the great advances that have been made in our knowledge of the clinical phenomena associated with the several morbid processes in the kidney which were formerly roughly joined together under the name of Bright's disease, it cannot be doubted that there still is very considerable difficulty in accurately diagnosing the anatomical conditions of the kidney, a difficulty shown by the not unfrequent failures of even those most conversant with the subject, and which may be attributed in part to the combination of two or more of these processes being present; in part to the distorted relations and exaggerated value of some of the phenomena which have been too dogmatically relied upon as characteristic of this or that anatomical condition; and again, in part, from the absence of any sufficiently significant circumstance or group of circumstances in many cases. Thus, acute parenchymatous nephritis frequently supervenes upon interstitial nephritis, and for the time masks all the symptoms peculiar to it; amyloid degeneration often accompanies the latter stages of chronic parenchymatous nephritis, or even interstitial nephritis, but without producing any sign which could reveal the modification in the state of the kidneys. Albuminuria occurring in the course of long-standing suppuration is too generally regarded as indicative of amyloid degeneration of the kidney; but chronic parenchymatous nephritis occurs under similar etiological conditions, and also gives rise to albuminuria. Lastly, albumen may be absent from the urine in cases of either contracting or amyloid kidney.

The difficulty of diagnosing the contracting form of kidney is well known;

possibly, most cases are only recognized in their later stages; but sooner or later albumen will be found in the urine. In amyloid kidney, unfortunately, this is not so. It has been generally recognized (Grainger Stewart, Bartels) that in the earlier stages of the malady albumen might be absent or intermittent in its appearance; but it has not been admitted that a case could exist for months and proceed to a fatal termination without albuminuria having been at some time present. Bartels, indeed, is most emphatic as usual: he says, "I am sure that I have never yet found distinctly marked amyloid disease of the kidney in the bodies of persons whose urine during their lifetime had been tested by me for albumen without its being discovered." M. Lecorché (*Traité des Maladies des Reins*, Paris, 1875) has maintained, indeed, that amyloid degeneration *per se* does not give rise to albuminuria, but that the latter results from the parenchymatous nephritis with which, according to him, it is almost always combined; both which statements are positively contradicted by Bartels. Quite recently, Dr. M. Litten (*Berlin Klin. Wochenschrift*, June 3d, 1878) has just published details of four cases which plainly establish the fact that amyloid degeneration of the kidney may be present without giving rise to albuminuria or polyuria, and that the presence of the degeneration can at best be only suspected.

His first case was a phthisical boy, who was under observation three months before death: the urine averaged generally from thirty to forty ounces (specific gravity 1011–15) sinking to ten or fifteen ounces in the later stages; there was never any trace of albumen. The second case was also one of phthisis, and was under observation thirteen days: his urine averaged thirty ounces daily, of specific gravity 1010, containing no albumen. The third case was one of visceral syphilis: urine under thirty ounces; specific gravity 1011–13; no albumen. The fourth case was communicated to the author by Dr. Weigert: the kidneys were amyloid, and there had been no albuminuria before death. The small quantity of urine in the first two cases is explained by the presence of diarrhœa; but this was absent in the third.

It seems, therefore, certain that we possess at present no sure diagnostic of amyloid degeneration of the renal vessels; that, on the one hand, it is likely to be confounded with, or mistaken for, chronic parenchymatous nephritis arising under identical etiological conditions; on the other, it runs a great risk of being altogether overlooked. But both of these evils may be avoided with a little care. Bartels points out that the differential diagnosis between amyloid disease and chronic parenchymatous nephritis depends upon the distinguishing characters of the urine, which, in the former, is clear with little sediment and few casts, mostly hyaline, and scarcely ever blood-corpuscles; in the latter it is always more or less turbid, with considerable sediment, is dirty coloured, contains many casts of every variety, and not uncommonly blood-corpuscles. In those cases in which no albumen was present, there have been signs of amyloid disease in other organs; and, in order to escape error, it will be enough to know that the absence of albumen from the urine does not exclude a slight degree of amyloid disease of the kidneys. —*Brit. Med. Journ.*, July 27, 1878.

On a Peculiar Form of Albumen in Urine.

Dr. W. R. Gowers, Assist. Prof. of Clinical Med. in Univ. Coll., records (*Lancet*, July 6) the following reactions obtained from a specimen of urine passed by a patient beyond middle age, who had previously suffered from glycosuria. Unfortunately no further particulars of the case are to be obtained.

The urine had a specific gravity of 1015, was acid in reaction, pale in colour, clear, and contained no sugar. Heat rendered it opaque from a considerable flocculent precipitate, but when boiled almost the whole of the precipitate disap-

peared, the urine becoming almost as clear as before the heat was applied. On being slowly heated by a water-bath, it was found that the coagulation occurred at 122° F., and the precipitate began to disappear a few degrees below the boiling-point. When thus slowly heated, the clearing on boiling, although great, was not so complete as when more quickly heated. The precipitate produced by a moderate heat, separated, and boiled with distilled water, dissolved at once.

Nitric acid in moderate quantity, in the cold, produced an abundant precipitate. Nitric acid and heat gave no precipitate: *e. g.*, if the upper part of the urine in a test-tube was boiled, the opacity first produced cleared from the part boiled, a layer of thick opacity remaining at the lower part of the heated part, where the heat applied was less. Nitric acid then dropped through caused no precipitate in the upper heated portion, but an abundant precipitate in the lower, cool part. A larger quantity of nitric acid (equal in bulk to the urine) dissolved all the precipitate thrown down in the cold by a smaller quantity of acid.

With a small quantity of nitric or acetic acid, a compound was formed freely soluble in water, cold or hot: *e. g.*, the copious precipitate produced by several drops of nitric acid in the cold was separated, and washed with distilled water. The first washing contained no trace of albumen (tested by placing it in contact with nitric acid). The second washing gave no abundant precipitate, tested in the same way, but none with heat alone, or with heat and more nitric acid. On adding to the urine a few drops of dilute acetic acid, no precipitate occurred, and none could be produced by heat. The addition of some nitric acid still caused a precipitate.

On rendering the urine slightly alkaline with liquor potassæ, heat produced no precipitate, nor did nitric acid added after heating. Nitric acid alone, in the cold, gave, of course, the same precipitate as before.

Alcohol, in moderate quantity, caused no precipitate. Creasote gave the same amount of precipitate as moderate heat.

The quantity of albumen was found, by Dr. W. Roberts's method, to be .858 grains per ounce. Possibly the data for that method are not quite accurate for an albuminous body different from the ordinary albumen.

The albuminous body shown by these reactions thus differs from the serum-albumen which commonly occurs in urine, especially in its solubility, at the temperature of boiling water, and by not being precipitated by a moderate quantity of absolute alcohol. The formation of a compound with acetic acid, as well as with nitric acid, not precipitated by heat, is, of course, frequently observed.

The only allusion to a similar reaction of an albuminous body in urine which I have been able to find is in a paper by Stokvis,[1] for an opportunity of seeing which I am indebted to Dr. Lauder Brunton. Stokvis describes coagulability at a temperature at which ordinary albumen is not coagulated (113° to 140° F.), and re-solution near the boiling-point, as a characteristic of a specimen of Bence-Jones albumen, and he found that when a solution of albumen giving this reaction was injected into the blood of a dog, the urine gave the same reaction. It is, however, stated by Stokvis that the substance had been obtained from urine by precipitation by alcohol. In this reaction the albumen I have described differs, since it was not precipitated by alcohol, and in this it resembles paraglobulin, which also may occur in urine. But Stokvis is certainly wrong in describing coagulability at a low temperature and re-solution as a characteristic of the albumen described by Bence Jones,[2] who stated repeatedly that the form which he found in the urine in osteo-malacia was not coagulated by heat alone. It is clear,

[1] Maandblad der Sectie voor Natuurwetenschappen, 1872, No. 6.

[2] Philosophical Transactions, 1848, part i., p. 55; and Animal Chemistry, 1850, p. 108.

therefore, that the substance tested by Stokvis was either not the same albumen, or had undergone a change. No doubt these forms of albumen are nearly allied, and may pass one into the other. Dr. Brunton's observations on the variations in the coagulation point of albuminous bodies in the urine,[1] and of those resulting from the process of pancreatic digestion, suggest that the latter may often pass unchanged into the urine, just as did that which Stokvis injected into the blood. It is possible that in this case the albumen had been formed during some modification of the digestive process, and had been absorbed and excreted unchanged. From the fact that the urine, although almost, was not quite, cleared by boiling, it seems likely that it did contain a small quantity of ordinary albumen.

—

Amyloid Degeneration of Lymphatic Glands.

At a meeting of the Société de Biologie in Paris on March 2, M. CORNIL presented some lymphatic glands taken from a young man who died from chronic arthritis of the hip-joint with suppuration, inflammation in the iliac fossa, phlebitis, etc. The crural and inguinal glands of the right side were much enlarged; also the sacral, lumbar, and mesenteric glands. The liver, spleen, and kidneys showed amyloid degeneration. The ovoid form of the glands was preserved, and they were isolated from the surrounding inflamed tissues. On section, little islands of amyloid substance were observed in the cortical part along the course of certain arterioles and their capillaries. On examination with a low power under the microscope, the septa were seen to be thickened, the lymphatic sinuses large; some of the follicles in the cortical alveoli with amyloid substance, and others quite normal. The epithelial cells on the septa were somewhat swollen and granular; large scaly or spherical cells, with from two to six nuclei, filled the spaces bounded by the septa. The inference then is, that lymphatic glands when hypertrophied are attacked by chronic inflammation, similar to that of syphilitic and tubercular glands, involving their connective tissue and epithelial cells. The reticular tissue may also become amyloid.—*Lond. Med. Record*, July 15, 1878.

—

The Bones in Pernicious Anæmia.

Professor OSLER, of Montreal, who has previously recorded changes in the medulla of bone in pernicious anæmia, has lately described a very instructive alteration found in one instance of that disease. The case was that of a girl twenty years of age, who presented only tenderness of the sternum to draw attention to the osseous system. The blood contained many microcytes and large irregular coloured cells, without nuclei, but none of the "elementary granules" of Schultze. Special attention is drawn to this, since it is the fifth case in which Osler has failed to find them, although they are abundant in ordinary anæmia and other cachectic conditions. There was moderate fatty degeneration of the heart, liver, and kidneys, but no other morbid state to be discovered. The medulla of the right femur, the sternum, and the ribs were of jelly-like consistence, not fatty, of a dard-red colour, like the splenic pulp. Microscopic examination showed (1) the ordinary granular marrow-cells, with distinct nuclei; (2) smaller marrow-cells, with granular protoplasm; (3) colourless cells of the size of the ordinary marrow-cells and larger, with homogeneous substance and finely granular nuclei. These are not vacuolated marrow-cells; their protoplasm is clear, transparent, like the ectosarca of the amœba. The nuclei are large, often indistinct, and their margins are granular and ill-defined. (4) Nucleated red blood-corpuscles, some so pale that their tint could only be recognized on comparing them with colourless cells.

[1] St. Bartholomew's Hosp. Rep., vol. xiii. p. 284.

Their protoplasm had a uniform darkly granular appearance, and showed the elasticity so peculiar to the red corpuscles. The nuclei were large, often two or three in each cell, and some had the "dumb-bell" shape, manifestly in the act of division. Other cells were deeply coloured, and were evidently the so-called "transitional forms" of corpuscles. Most were large in size, their nuclei granular, eccentric, but rarely projecting from the body of the cell. In some the nuclei contained a few indistinct granules, and in two, which were deeply coloured, no nuclei could be seen. Some of the deeply-coloured corpuscles were smaller, round or elliptical, with vesicular nuclei. These cells resembled closely many of the larger red blood-corpuscles, but it was difficult, often impossible, to say whether or not they possessed nuclei. Lastly, ordinary red corpuscles were present, many large, elliptical or irregular in form, but always flattened, and of moderately dark colour. Some microcytes were seen, but fewer than in the blood or spleen. No giant cells were seen, nor any of the so-called "Charcot's crystals," even when decomposition was commencing.

In no other examination of the marrow, in either morbid or healthy conditions, has Osler encountered such a variety of developmental forms. In two other cases of pernicious anæmia, in two of leucocythæmia, in one of pseudo-leukæmia, in two of tuberculous affections—phthisis and tubercular peritonitis,—the marrow was hyperplastic, and presented few or many nucleated red corpuscles, but not the peculiar forms described above as (3) and (4). These appear to be intermediate between marrow-cells and nucleated red cells on the one hand, and ordinary red blood-corpuscles on the other. Osler quotes Neumann's significant statement that "to regard the nucleated red blood-cells as transitional forms between colourless and coloured elements involve a theory as to their origin on which I, perhaps, have expressed myself with too much assurance;" and again, "It is not improbable that the development of the nucleated red corpuscles may be independent of the colourless marrow-cells"—a significant admission, considering his former positive statement on this point. The case now recorded supports, however, the opinion that a transformation of the colourless marrow-cells into red corpuscles actually takes place, and that this is produced by a degeneration of the nuclei, and thickening of the protoplasm of the cell. This seems to be the significance of the series of intermediate forms above described. Still, it is by no means obvious what significance these changes have as to the disease in which they have been found. Whatever the change in the medulla, the origin and cause of the disease can only be decided by further observations on the functions of the marrow and its influence on the blood.—*Lancet*, August 3, 1878.

—

Hereditary Syphilis.

Prof. PARROT has of late been delivering some interesting lectures on this subject, which appear in the *Progrès Médical*, and of one of these, as summarized in the *Gazette Médicale*, July 20, on the indications of treatment, the following is an abstract:

When an infant is born perfectly healthy in appearance, but one of whose parents is the subject of syphilis, there is a difference of opinion as to whether it should at once be submitted to appropriate treatment. Profs. Parrot, Roger, and others prefer to wait for the earliest manifestation of disease. The first symptoms, however, do not necessarily exhibit themselves on the skin or mucous membranes, for Prof. Parrot has indicated the presence in some cases of obstinate gastro-intestinal disturbance, resisting all hygienic measures, appearing in new-born infants brought up under the most favourable condition possible, and only yielding to specific treatment. When the new-born infant is manifestly syphilitic, much will

depend on its mode of treatment on the clinical forms of the disease. As in the adult, syphilis may from the time of its appearance put on a very serious or malignant form, and terminate fatally, so that action must be speedy. In other cases on the other hand, there are merely some cutaneous or mucous manifestations of slight extent, and which are so much the less serious the later they appear. In this delayed form of hereditary syphilis, insidious in its progress, and which may give rise to the bony lesions termed by Prof. Parrot "syphilitic rickets," all the manifestations may be sometimes limited to the production of a small number of papular *syphilides*, disseminated over particular regions. In such cases the infants may be cured without the aid of any treatment, although the iodide of potassium will render signal service, and contributes in the course of time to the modification of the osseous lesions. But the case is far more serious when the syphilis is speedy in making its appearance; and if at the period of birth it has already manifested itself on the surface, the internal lesions will have become too advanced generally to allow of their yielding, and the most heroic treatment will in most cases remain powerless. In most cases we find syphilis manifesting itself at the exterior during the early weeks after birth, and we should then act without delay. The therapeutical opportunity will not so much depend upon the more or less considerable quantity of mercury or iodide that has to be administered, as on the epoch of the appearance of the syphilitic accidents, syphilis being dangerous in proportion as it is speedy in manifesting itself. Mercury is the remedy *par excellence*, and one on which we can always count. In ordinary cases internal treatment suffices, and acts rapidly enough, Van Swieten's *liquor* (corrosive sublimate gr. ss ad ℥j) being the best form for administering the mercury, and one well borne by infants. Of this, if the infant is robust, a teaspoonful may be mixed with twenty-five or thirty grammes of milk—or, what is preferable, syrup; the five or six teaspoonfuls of which the mixture will then consist being administered before the child suckles each time, in this way avoiding the gastric irritation which the medicine might otherwise give rise to. At six months of age two teaspoonfuls of the *liquor* may be given. The treatment, in spite of its rapid success, must be continued for a long time, the infant being kept under the influence of the remedy for twelve or eighteen months, or even two years if necessary—whenever the symptoms reappear on its suppression. Then, whenever the bones present any of the characteristic lesions, we should have recourse to iodide of potassium. Prof. Parrot, however, prefers the tincture of iodine, as given in this formula, viz.: Tincture of iodine and syrup of orange-peel or syrup of gentian 100 parts. A teaspoonful to be taken four or five times a day before each feeding.

The advantages of this internal treatment are immense; but it cannot be used indiscriminately with all patients, some of whom are cachectic, very feeble, scarcely taking the breast, and digesting badly—in a word, in a state of athrepsia or innutrition. The smallest portion of a medicinal substance introduced into the stomach is rejected, vomiting and diarrhœa preventing all internal treatment. After this has been tried for a day or two without avail, being even dangerous, we must resort to external measures—viz., the introduction of mercury by the skin. One contra-indication alone to this may be present, when the skin is covered with syphilitic ulcerations, threatening to absorb too great a quantity of mercury. Properly speaking, the mercury is then dangerous, and requires supervision, but it is not contra-indicated. The frictions should be made preferentially in the axilla and over the neighbouring wall of the thorax, where the skin is delicate and moist. A gramme of ointment, consisting of one part of blue ointment and two parts of lard, may be rubbed in every day, the utmost cleanliness being observed at the same time. Under its influence the syphilitic ulcerations and the *syphilides* generally disappear as if by enchantment; and corrosive sublimate baths are little

recommended at the present time, as they are devoid of the precision obtainable by the employment of mercury in friction, and may be even dangerous. When they are deep, the ulcerations of the skin or mucous membranes may also require local treatment, and then the glycerole of zinc rapidly dries up the wounds; or iodoform may be used if the ulcerations are of a phagedenic character.

In hereditary syphilis, then, we shall meet with success if we act rapidly and with vigour by means of faithful medicaments.—*Med. Times and Gaz.*, August 3, 1878.

Surgery.

Auditory Disorders in Bright's Disease.

M. DIEULAFOY has just published several observations in the *Gazette Hebdomadaire* (*Journal des Connaissances Médicales*), from which he thinks that the auditory disorders accompanying the different forms of Bright's disease, far from being rare, ought to be considered as symptoms in the same degree as the ocular disorders which are frequently met with in this malady. These auditory disorders are not always the same: most frequently they consist of a humming sound in one or both ears; generally these sounds are accompanied or followed by semi-deafness. Now and then the deafness comes on without previous noises; it may be transitory and recurrent, or rarely complete; it may be localized in one or both ears, and disappears or remains permanent, according to the case. Lastly, these various auditory disorders may be painless, or may be accompanied by acute pain in the face or ears. One patient, who had suffered from tinnitus aurium for twelve or fifteen months, was examined by M. Ladreit de Lacharrière, who found permanent lesions of the tympanum, viz., an abnormal vascularity at the level of the handle of the malleus on the right side, and thickening with depression of the left membrana tympani, which no longer reflected rays of light. In thirty-seven cases which were observed, auditory disorders were demonstrated fifteen times. 1. It is difficult to decide whether these disorders are more especially allied to any one of the forms of Bright's disease; they exist in all forms of nephritis, chronic or acute. 2. Auditory disorders occur at all stages of nephritis; eleven times out of fifteen they appeared to be contemporary with the œdema, or with the increase of the œdema. 3. Their intensity is very variable; several times they have coincided with a painful stage, facial neuralgia, or deep seated pains in the ear; several times, also, they have appeared on the same side as the facial œdema, or at least on the side where œdema was greatest. 4. As to whether one ought to assign them to lesions of the ear or of the auditory nerve, this is a point to be determined as observations become more numerous; one sees now a rent in the tympanic membrane, now an abnormal vascularity, and so on. 5. With regard to their diagnostic value, these disorders may prove to be of great assistance; they often complete the *tableau* of the disease; in some cases they precede the other symptoms; and sometimes they may put one on the track in a difficult diagnosis, as in certain obscure forms of Bright's disease, in which nephritis neither reveals itself by œdema, nor by any other apparent sign.—*London Med. Record*, July 25, 1878.

Penetration of Dust into the Lungs after Tracheotomy.

M. BALZER calls attention (*Revue Méd*, July 8) to a condition which he has observed on examining the lungs of children who have died after tracheotomy.

He found the sections of the lungs so loaded with foreign bodies that they resembled those of a lung filled with anthracosis. On examining the sections with a low power, he found the bodies distributed along the course of the bronchi, penetrating the exudations, traversing the walls of the bronchioles, and occupying the alveoli. The larger bodies were free and isolated, but the smallest penetrated the protoplasm of the cells. The number of these foreign bodies varied greatly in different cases. On several occasions they have been mistaken for pathological change, but when the lung is freed from the blood which flows from the vessels, and especially after maceration in alcohol, the little blackish blocks are easily distinguished. They gain access to the lung through the canula, which does not sift the air as is done when it traverses the natural passages, the child finding itself in much the same condition as an animal in which paralysis of the larynx has been induced by section of the recurrent. This penetration takes place more abundantly in some cases than in others, not only from there being a great amount of foreign bodies in the air, but owing to the dry state of the canula when the child is going on badly. Although it is difficult to appreciate the extent to which they do so, these foreign bodies may easily induce inflammatory lesions; and it is reasonable to suppose that they may sometimes be the cause of the inflammatory affections of the lung which come on late after the operation. At all events, their admission should be opposed as much as possible; and in this point of view the cravat applied over the canula may be useful, as well as in warming the inspired air. When the rooms in which the children are placed are cleaned, also, their necks should be carefully covered up. Whenever, too, the canula becomes dry it should be moistened by an oily substance so as to enable it to arrest the foreign bodies.—*Med. Times and Gazette*, July 20, 1878.

—

The Antiseptic Treatment of Empyema.

The antiseptic method of treating wounds is doubtless capable of numerous modifications, and experience shows that the principle of the system is applicable to a constantly increasing variety of cases. In Germany especially the system is undergoing a thorough trial, and scarcely a week passes without reports of experiments attended by results almost uniformly satisfactory. There appears, indeed, to be no limit to the number or variety of cases to which the method is applicable. A few weeks ago we published an abstract of Professor Schroeder's report on fifty cases of ovariotomy, performed with the most minute antiseptic precautions, the mortality being only 15 per cent. In the hands of Professor Hueter, of Greifswald, subcutaneous injections of weak solutions of carbolic acid have been found to act most satisfactorily in checking the spread of traumatic erysipelas; and quite recently Professor KÖNIG, of Göttingen, has reported an apparently very unpromising case of empyema, in which, after the removal of the pus by a trocar, the pleural cavity was washed out with a three-per-cent. solution of the same remedy, and the wound dressed on the antiseptic plan, with a result and progress almost marvellous.

The patient was a delicate girl, ten years of age, who had lost both parents from phthisis. She had suffered for some weeks from symptoms of exudative pleurisy of the left side, and two punctures had been made, purulent fluid escaping on each occasion. The heart was considerably displaced towards the right side; fever, rapid emaciation, dyspnœa, and slight bulging of the intercostal spaces being the other prominent symptoms. Dr. König's opinion being sought, he recommended that an opening should be made through an intercostal space. In consequence of the narrowness of the interval between the ribs, and in order to be able to introduce a somewhat large drainage-tube, a portion of bone, a cen-

timetre and a half in length, was removed, the spot chosen for the operation being near the posterior extremity of the eighth rib, external to the attachment of the levator costæ. The intention was that, in the supine position, the opening should correspond to the lowest part of the purulent collection. Chloroform was administered, and all antiseptic precautions rigidly adhered to. After the evacuation of a large quantity of thickish pus, the pleural cavity was washed out with a lukewarm, three-per-cent. solution of carbolic acid, the injection being continued until the fluid came away perfectly clear. A drainage-tube, as thick as the little finger, was then placed in the wound, so that its extremity projected about a centimetre within the pleural sac. A needle passed transversely through the wall of the tube, close to the wound, prevented any displacement. The wound was then dressed, according to Professor Lister's directions, with gauze, wadding, and bandages. For some days a daily dressing was requisite; afterwards a renewal of the application every third or fourth day was found to be sufficient. The dressing was conducted under the spray, and the tube was at the same time removed, cleansed, and replaced. By the fifth week the secretion was very inconsiderable, and a very fine tube was substituted, with a result, however, of increase of temperature. This relapse was only temporary, and in a few days a tube no thicker than a lucifer match was all that was required. The condition of the patient began to improve immediately after the operation, and her progress was rapid and continuous. The fever soon abated, the appetite returned, and the bodily weight increased with astonishing rapidity. The patient was soon able to leave her bed and to move about in the open air. During the whole course of the treatment there was never the least trace of putrescence in the secretion.

In commenting upon this case, Professor König lays down the following rules for the antiseptic treatment of recent non-fistulous empyema: 1. The operation should be performed with antiseptic precautions—disinfection of surroundings, the use of the spray, etc. 2. The incision should be as near the vertebral column as possible, in order to facilitate the escape of secretion. Double incisions are rarely necessary. 3. The incision should provide for the easy insertion of the drainage-tube. If the ribs are very close together, a portion of bone may be removed. This part of the operation may be performed subsequently, if the opening be found to be too small. It will seldom be necessary for adult cases. 4. After the escape of the pus, the pleural cavity must be once for all thoroughly disinfected. For this purpose a solution of salicylic acid may first be used, and when the fluid returns free from colour the cavity may be rapidly washed out with a strong solution (from 2½ to five per cent.) of carbolic acid, the stronger solutions being applicable to cases where the exudation is putrid. Hueter has drawn attention to the fact that solutions of this strength, inasmuch as they produce coagulation, are less likely to be absorbed and cause mischief than those which contain less acid. This primary disinfection must be carried out with care. There is but little risk of carbolic poisoning when the pleural sac is thickened and covered with exudation; but absorption is very likely to take place when the membranous deposit is scanty in quantity. A simple washing out with the salicylic acid solution will probably suffice in cases where the effusion is merely purulent. After disinfection, the drainage-tube is to be inserted as described; it should just project into the pleural cavity, and should therefore be from five to six centimetres long. 5. Plenty of carbolized gauze should be applied over the opening and its neighbourhood. This should be covered by the ordinary antiseptic bandage completely enveloping the thorax. 6. The dressing should be changed immediately the least trace of secretion shows itself upon the surface, and during the first few hours the renewal would be required every twenty-four

hours. If the secretion remains free from smell, there is no necessity for again washing out the pleura, but this must be done, as before described, if there are any signs of putrescence. There is, of course, some risk of carbolic poisoning, but the danger to the patient will be less than that of septicæmia. In such cases a second opening and drainage-tube may be necessary in order to provide for the free escape of the secretion. Professor König lays great stress upon the fact that a single washing out of the pleura will suffice for the majority of cases of empyema. Frequent injections should be regarded as the exception, and as required only in cases where the effusion is found to be putrid, or has become so during the progress of the case. After the first week, the dressings may be less frequently renewed, the length of the interval depending upon the amount of secretion, and the saturation of the materials applied. 7. The size of the drainage-tube may be gradually decreased, but the tube should not be discontinued so long as there is any secretion. At every renewal of the dressings, the tube should be withdrawn and cleansed. Dr. König claims for this method the great merit of simplicity, and states that the dressings can be carried out by any surgeon, even though he be not especially versed in the details of the antiseptic method.—*Med. Examiner*, July 25, 1878.

—

Ligature of the Arteria Innominata for Aneurism of the Subclavian Artery.

Mr. R. T. GORE, of Bath, records (*Lancet*, July 27, 1878) the following case:—

D. D——, aged fifty-two, a tall, well-formed, and muscular man, was admitted into the hospital, Bath, Sept. 22, 1856. About three years ago his attention was directed to a swelling in the axilla, about the size of a walnut. In a few weeks it increased in size, with pain extending as far as the elbow. It remained stationary until the spring of 1856, when it began to enlarge rapidly, with increasing pain, and was observed to pulsate.

On admission, a large pulsating tumour was found occupying the right axilla, and extending upwards beneath the pectoral muscles and clavicle, until it came in contact with the scalene muscles. He appeared in fair general health, though much distressed by pain and want of sleep. The pulse was about 80, and the actions of the heart and lungs quite natural. The whole tumour pulsated more or less distinctly, with an anurismal thrill. The swelling approached so near to the scaleni as to render the application of a ligature on its cardiac side impracticable.

The ligature of the arteria innominata was decided on, after consultation with the other surgeons to the hospital, and performed under chloroform on Sept. 24, 1856. An incision was made a little above the upper margin of the clavicle along its inner third, and carried to about an inch beyond the sterno-clavicular joint. This was met by a second incision along the inner edge of the sterno-mastoid muscle, and the flap thus formed reflected upwards and outwards, including the sternal attachment of the sterno-mastoid. The sterno-hyoid and sterno-thyroid muscles were then carefully divided close to the sternum. A vein of some size was here divided, and tied at both ends. A very little, but cautious dissection exposed the arteria innominata; an aneurismal needle was passed behind it from the outside, and the vessel tied with a hempen ligature. Pulsation at once ceased in the tumour, and in the arteries of the arm and face on the right side.

The practical difficulties of the operation were by no means great, and in a long-necked person are, no doubt, much less than in the ligature of the subclavian on the outer side of the scalenus. The quantity of blood lost was quite trifling. The limb was wrapped up in cotton-wool and blankets. He passed a fair night with an opiate, and on the next day expressed himself much relieved. There

was not any pulsation in the tumour nor in the arteries of the arm, though there was a faint one in the temporal artery. Pulse 110; skin cool.

Sept. 28. He had a rigor in the night, and there is a slight cough, and also a blush of redness around the wound, which begins to discharge rather freely. Three sutures were removed.

Oct. 1. The redness is less; the pulse 108; the cough nearly gone, and he has slept fairly.

5th. He had a second attack of rigors, followed by tension of the tumour and arm. The arm kept up a fair temperature, and the blood in the veins moved slowly towards the heart. The treatment consisted in a free use of opiates and stimulants.

8th. The unfavourable symptoms had nearly disappeared, the wound looking healthy and suppurating moderately; but it was noticed that the ligature had an impulse communicated to it by each action of the heart.

He went on fairly well until Oct. 10, when, on the seventeenth day after the operation, during a fit of coughing, a clot of dark colour escaped from the wound, and was followed in fifteen minutes by a stream of arterial blood, which continued to flow until his death, within an hour from the beginning of the attack.

Necropsy, fourteen hours after death.—The arteria innominata was partially cut through by the ligature, which was firmly attached to it. Its cardiac extremity was scarcely at all contracted, but was partially plugged by a firm clot, three-quarters of an inch long. The aneurismal tumour, now very much reduced in size, was filled by a firm coagulum occupying the subclavian, axillary, and upper part of the brachial artery. It was of an elongated, fusiform shape, and on the cardiac side came in contact with the scalene muscles. The carotid artery was blocked up as far as the bifurcation by a firm clot. The right subclavian vein was attached to the tumour and obliterated. The left subclavian vein was filled by a soft coagulum, and its coats thickened. The aorta was coated with many deposits of atheroma. Extending from the wound into the anterior mediastinum was a large cavity, stretching upwards in the neck under the sterno-mastoid muscle, and filled with offensive pus. The heart was healthy. The lungs were somewhat congested, and the bronchi filled with thin mucus.

Though the above case was unsuccessful, the impression it left upon my mind is, that under favourable circumstances the operation is in certain conditions justifiable and advisable, and that with the improved methods now available it may yet be followed by favourable results. Nor does it militate against that view if I add to this history the fact that more than fifty years ago a similar operation was performed in this city, followed by death on the fifth day. But in that instance, though the case was in many respects favourable, the operation was over-long delayed, and was at last undertaken somewhat hastily and unadvisedly, owing to the occurrence of a train of symptoms the true character of which was altogether misunderstood and misinterpreted. They were, in fact, the signs of an attack of acute pericarditis, which was a sufficient cause of death. The state of parts about the seat of ligature, as seen after death, was very satisfactory and promising, as there was a firm clot on the cardiac side, and no signs of suppuration in the mediastinum.

I may further state that preparations illustrative of the two cases are lodged in the museum of the United Hospital in this city.

—

Ligature of the Carotid for Hemorrhage after Erysipelas.

A singular case, for which ligature of the carotid was employed with success, was lately communicated by M. DENUCE to the Académie de Médecine. The

patient was a young officer who suffered from a suppurating otitis, accompanied first with severe pain and afterwards swelling in the temporal region, with erysipelatoid redness. Three incisions were made into the swelling, each at a few days' interval. The last was followed by considerable hemorrhage, easily repressed by the application of perchloride of iron and by pressure. Eighteen days later, while the patient was rapidly improving, a large hemorrhage suddenly occurred, filling the cavity of the phlegmonous abscess, and escaping in jets at the several openings. Compression and ligature of the temporal artery did not arrest the hemorrhage, and the cavity was therefore filled with lint soaked in perchloride of iron, which for the time stopped the bleeding. Two days later it recurred, and was arrested by the same means, but a considerable increase of the sloughing inflammation was the consequence, and the abscess spread to the region of the jaw, and thence a fresh hemorrhage occurred externally and into the mouth. Compression and perchloride of iron were again resorted to, but the patient had become extremely anæmic, and evidently unfit to bear a fresh hemorrhage. The common carotid was therefore tied, the tumefaction of the upper part of the neck being too great to permit of ligature of the external carotid. The huge temporal cavity was then emptied, and its blackened walls dressed, with slighter pressure, and daily washed out with a solution of "coal-tar saponine." The walls rapidly presented granulations, and at the end of a month cicatrization was almost complete. The ligature fell without any disturbance, and the patient rapidly recovered.—*Lancet*, July 27, 1878.

—

Castration.

A discussion on this subject took place at the Société de Chirurgie (*Bulletin*, May 8), in connection with a case related by Dr. POINSOT, of Bordeaux, in which the ligature of the cord *en masse* had been blamed by M. Desprès, as risking the production of tetanus. Dr. Poinsot quotes the experience of Bouisson, Delpech, Lallemand, and Serre, who never met with this untoward occurrence from following the practice in question. Sédillot and Legouest doubt the reality of the occurrence of tetanus, and both Giraldès and Tillaux are partisans of the procedure. In a case referred to by M. Poinsot, also, in which the vessels were separately tied, tetanus occurred. M. Desprès, in reply, stated that there could be no doubt of tetanus having followed ligature of the cord *en masse*, for those present had witnessed an example in the service of M. Nicaise. Why, in fact, should we act differently with the testicle than with other organs? and who would ever employ a ligature *en masse* in amputations? M. Forget, however, observed that he had often seen Lisfranc perform castration with a ligature *en masse*, and never knew tetanus to follow. He employed a very thick thread, declaring that neither hemorrhage nor tetanus could occur, since by strong constriction he instantly destroyed the tissues comprised within the ligature. M. Le Dentu said that he had often performed castration, and had found the tying each artery separately very easy, and he considers the ligature *en masse* to be a bad operation. On the other hand, M. Tillaux observed that he had also performed a considerable number of castrations; and although he always used the ligature *en masse*, he had never met with tetanus. By this procedure he considered one of the greatest dangers of castration is avoided, viz., hemorrhage, which is always to be feared unless the three arteries of the cord are tied. These arteries, which are of very small size, retract, and do not bleed at once; and it is only at the end of some hours that a hemorrhage, which may prove very difficult to arrest, occurs. As to attributing tetanus to the ligature *en masse*, we must first prove that the ligature of a nerve will induce tetanus. This is very doubtful; and it is by no means rare, on tying an artery, to include in the ligature a nervous filament,

without tetanus being induced. Recently, M. Tillaux, in an amputation at the shoulder, tied the brachial plexus *en masse*, without the slightest ill effect resulting. There is no proof that the ligature of a nerve may give rise to tetanus, any more than ligature of a muscle. The chief objection to ligature *en masse* is the great delay which takes place in the coming away of the ligature; and to obviate this M. Tillaux is accustomed to separate the cord and apply three or four ligatures, according to the size of the cord; so that there are partial ligatures *en masse*, which come away in from eight to twelve days without causing any accident. M. Sée, after having performed several castrations with ligatures *en masse* without meeting with any accident, has yet abandoned the procedure, because in large cords the constriction ceases after some hours to be sufficient, and hemorrhage may occur. He substitutes the following procedure: After the cord has been dissected its fibrous tunic is divided, so that the various parts may be displayed, and the arteries, which are then easily distinguishable among these, are tied one after another prior to their being divided. Prof. Verneuil disapproves of ligature *en masse*, and has not found any difficulty in seizing the open arteries by hæmostatic forceps, which, after the removal of the tumour, are replaced by catgut ligatures. To be secure against all hemorrhage, the veins as well as the arteries should be tied, these veins having no valves. In order to be secure against secondary hemorrhage, M. Desprès thinks four ligatures are required, for, besides the arteries of the cord, the artery of the dartos has to be secured. They may be secured at once, without the application of the hæmostatic forceps. After ligature *en masse*, purulent infection may occur as well as secondary hemorrhage.—*Med. Times and Gazette*, July 20, 1878.

Cystic Sarcoma of the Lower Jaw, removed without External Incision.

Anna L., aged fifty, was admitted into Mr. MAUNDER'S ward at the London Hospital on Feb. 19th. She stated that she was married, and the mother of ten children, all of whom were living. Both her father and mother had been healthy, and died of old age at eighty and seventy years respectively. There was no history of cancer, phthisis, or scrofula in the family. She had always enjoyed good health herself, and all her children were robust and healthy. Ever since she was a young girl she had had a small lump, about the size of a walnut, on the lower part of the body of her under jaw, to the right of the symphysis. This caused her no inconvenience whatever and but slight deformity—so slight, indeed, that she had had nothing done for it. She could assign no cause for the tumour. Although stationary for many years, the tumour began to grow ten months before admission, and continued to enlarge slowly for eight months; it then increased more rapidly.

On Feb. 20th the tumour was removed, without any external wound, by Mr. Maunder's method, as described below. The patient rested well during the night, and felt quite comfortable next morning. She took her food—milk, beef-tea, and strong broth—without any difficulty, and evidently relished it, feeding herself with the aid of a spoon. No hemorrhage had occurred. Temperature in the evening, after the operation, 101.8° F., and on the following morning it was 101° F.; pulse 120; repiration 24.

On the 22d she complained of the tongue being swollen, and of a fetid odour arising from her mouth; otherwise she was comfortable. Sensation was as good on the right side of the face as on the left, except in the regions supplied by the right mental nerve, which she said felt numb. A considerable quantity of saliva and mucus dribbled from the corners of her mouth. Temperature in the morning 100.2° F.; pulse 106; respiration 22.

On the 24th temperature was 99.6° F.; pulse 100; respiration 20. She was rapidly recovering from the effects of the operation, and complained less of her tongue and of the odour from her mouth.

On the 26th the temperature, pulse, and respiration were normal. She continued to take her nourishment well. Ordered minced meat and three ounces of brandy. One or two stitches attached to the tongue were removed.

On the 28th the small laceration produced by the large size of the tumour on extraction had completely healed, leaving only the remotest trace of a scar. Temperature and pulse normal.

On March 2d the slight numbness which she felt about the right side of her chin was disappearing. She moved her tongue with almost as much facility as before the operation. There had been no hemorrhage since the removal of the tumour. She took solid food without much difficulty. Complained a little of her upper teeth protruding beyond her lower. She sat up or walked about the ward the greater part of the day.

A small abscess formed just below the divided symphysis, and was opened by the house-surgeon on March 12th, and about a thimbleful of pus was discharged; otherwise she progressed most favourably.

On March 14th the small incision had healed, and the patient considered herself cured. Her appetite was much better than before the operation. A fibrous band was seemingly forming between the divided portions of bone.

On April 2d the patient left the hospital.

Mr. Maunder remarked that during the last eight years he had removed large lateral portions of the lower jaw, the seat of tumour, three times at the hospital, without making any external incision. He showed photographs of the patients subsequent to operation. Before attempting the operation of the above case, he expressed anxiety lest, having set free the tumour, he should be unable, on account of its size, to extract it entire through the mouth. The real size of the tumour was not manifest externally; the floor of the mouth was also occupied by it, and the tongue was displaced to the left side. The operation was conducted as on former occasions, the patient being seated in a dentist's chair. No external excision was made, but the portion of jaw, the seat of tumour, was liberated by the knife, raspatory, saw, and bone-cutting forceps used within the mouth. As the operation proceeded one large cyst burst, and collapsed, and it was hoped that this diminution would be sufficient to make extraction easy. But it failed to do so, and as the tumor was being slowly withdrawn by a large pair of lithotomy forceps, the right angle of the mouth split to the extent of three-quarters of an inch. Under similar circumstances, Mr. Maunder would in future tap all existing cysts before attempting extraction, or he would remove the tumour piecemeal, after cutting it free from healthy structures.

Mr. Maunder claims for his method of operating: absence of hemorrhage, the facial vessels not being wounded; avoidance of ligatures; non-interference with the muscles of expression, and consequently avoidance of paralysis and the deformity which results from division of the branches of the facial nerve; and, lastly, the absence of a long, unsightly scar on the cheek.—*Lancet*, July 20, 1878.

—

Case of Loose Cartilage becoming Adherent after Venous Thrombosis with Pulmonary Embolism.

Dr. AUFRECHT of Magdeburg reports the following case in the *Deutsche Medicinische Wochenschrift* for June 8. T., a butcher, aged 38, suddenly felt a sharp pain in the right knee-joint on the 18th September, 1877, so that he was unable to stand. On examination, the presence of a movable cartilage about the size of

a bean, which appeared now on the outer and then on the inner side of the joint, was made out. Its removal was advised, but was deferred for a few days at the patient's request. On the 22d September the cartilage was again caught between the articular surfaces of the joint, and this time caused intense pain, leaving the joint very tender, so that subcutaneous injections of morphia became necessary, and a somewhat febrile condition with increased temperature (101.3° F.) continued for two days. The cartilage could be felt now as a small prominence on the inner side of the patella. The joint remained stiff and tender for eight days. Suddenly, on the 3d October, there came on sharp shooting pains in the right side with hæmoptysis, about two teaspoonfuls of blood being coughed up. This pain continued for some days, and was accompanied by cough and moderate hæmoptysis, and there was a patch of dulness about the size of a crown-piece, with a strongly pronounced friction-sound on the right side posteriorly near the fifth rib. Under repeated injections of morphia and application of sinapisms, these symptoms gradually gave way. On the 8th of October there was œdema of the right foot; the knee-joint was free from pain, but stiff, owing to the prominence near the patella. On the 14th there was renewed hæmoptysis with cough, but no pain in the chest, and no lung-disease of any kind could be made out. The patient, however, felt weak, and had to keep his bed for a fortnight. The œdema of the right foot and leg continued for some time, and subsided only very gradually. There was no pain or tenderness of the joint now, but the prominence near the patella continued immovable in the same place, and was still fixed there last month (May). There can, therefore, be no doubt that the cartilage first excited by its presence a certain degree of inflammatory action in the knee-joint, in consequence of which it became itself adherent. The concomitant chest-symptoms form a point of some interest. The sudden accession of pain and hæmoptysis, the circumscribed dulness and friction-sound, occurring in a man hitherto in perfect health, all indicated pulmonary embolism; but that this emanated from the affected limb was only confirmed when œdema of the right foot set in on the fifth day after the occurrence of the chest-symptoms. The clot or thrombus had probably originated in one of the veins about the affected knee-joint.—*London Med. Record*, July 15, 1878.

On the Value of Antiseptic Treatment of Penetrating Gunshot Wounds of the Knee.

Dr. C. R. REYHER, of Dorpat, Consulting Surgeon with the Army of the Caucasus during the late war, has published in the *St. Petersburgher Medicinische Wochenschrift*, March 9, 1878, an account of the cases under his care in the campaign.

"Gunshot wounds of the lower extremities have at all times excited the greatest interest; in former campaigns, because the surgeon sought to discover the causes of their remarkable danger to life, and in more recent campaigns because the brilliant results of conservative surgery applied to the treatment of wounds of the upper extremity, demanded the testing of the same method in the lower extremity. After von Langenbeck had discovered, in the Austrian war of 1866, to how great an extent conservative surgery was applicable even in gunshot wounds of the knee, and how favourable were the results, the interest of surgeons in the treatment of these cases has been more especially excited. On this account it is proposed to report briefly on the gunshot wounds of the knee healed by me in the recent war in Asia."

Of a total of 81 cases of wounded knee, there were 28 in which the bullet was driven into the parts.

Eighteen cases were treated from the onset by the antiseptic method—"primary antiseptic treatment." The mortality of these was 16.6 per cent.

In none of the eighteen treated was either primary or secondary amputation performed. The fifteen who recovered, not only recovered without loss of limb, *but they also recovered motion in the joint.* Of the three deaths, one was caused by hemorrhage from wounded popliteal artery and vein, one from lung disease (*Fettembolie.* fatty degeneration of lung capillaries) two days after being wounded, and one from tuberculous suppuration (of the knee?), hectic, uncontrollable diarrhœa.

Forty cases were *at the outset* treated without any regard to antiseptic principles, *i. e.*, they were explored without antiseptic precautions, without cleansing of wound by antiseptic washes or injections, without antiseptic bandages or dressings; *subsequently*, they were subjected to antiseptic treatment—"secondary antiseptic treatment." The mortality in this group of cases was 85 per cent. *Intermediary* amputation was performed in nine of these, of whom seven died. *Secondary amputation* was performed in twelve cases, of which nine died. One only of a total of 40 cases treated by partial use of antiseptics recovered with the limb saved. that limb remaining ankylosed.

The 34 deaths were caused: 10 by "septic inflammation," 12 by "metastatic embolic pyæmia," 4 by "peracute diffuse suppurative arthro-meningitis," 7 by tuberculous suppuration, hectic, 1 by carbolic acid poisoning. (The author does not state whether this poisoning was through absorption at the exposed surfaces.)

Twenty-three cases were at no stage treated antiseptically. Of these 13 underwent secondary amputation. Of the total 23 cases, 22 died, showing a mortality of 96 per cent. of those treated entirely without antiseptics. The causes of death, investigated necroscopically, were: 3 from septic inflammation, 7 metastatic embolic pyæmia, 5 tuberculous suppuration (of the knee, it is presumed), hectic, 1 dysentery, 1 tetanus, 1 cause unknown, autopsy having been neglected.

Dr. Reyher avoided unnecessary internal exploration of the wound, employed splints to prevent movement of the joint, extracted loose and foreign bodies, and the projectile. This, in one of the cases, had broken the patella into three pieces, and had lodged itself in the tibia. In another case it had broken off and displaced the external condyle of the femur. In four cases the projectile had traversed the joint. The disinfecting agent consisted of solution of carbolic acid, 2½ to 5 per cent. The mode of employing this solution is worthy of mention. He used a common clyster syringe, drove the fluid with the utmost pressure into the cavity of the joint, so that all its recesses might be filled, and assured and completed this washing out of all internal parts by closing the external openings, and whilst keeping the cavity full of the solution, made flexion and extension movements of the limb; in fact, carried out "pump movements of the joint."

"Drainage tubes were employed, sharp edges of bone and projecting pieces which interfered with the laying of the tubes were removed by the gouge or chisel and mallet. Enlarging the external wound was scrupulously avoided.

"The smaller the external wound the more thoroughly the cavity can be washed out."

"Important practical experiences as to the mode of effecting drainage from the anatomically complicated formation of the knee-joint are given." The removal of secretion from the supra-patellar bursa and the anterior chamber of the joint is easy enough. Any lateral incision of sufficient size to admit the drain tube answers the purpose. The chief difficulty consists in the drainage of the posterior chamber, the accomplishment of which is so much the more important as pus so readily stagnates in this part. On account of the popliteal bloodvessels, drainage from behind is out of the question. Recourse must be had to lateral incision on

both sides of the articulation by semi-circular cuts 5–6 ctm. long, following the direction of the condyles carried directly into the joint. By this means the posterior chamber is laid open on both sides without injury to the muscles. But, as even in the flexed position of the limb the drainage tube cannot be carried into the chamber, it was necessary to remove with chisel and mallet enough bone from the posterior convexity of both condyles, so that each condyle might receive a tube into a small transverse gutter. Of five cases thus operated only one survived; he recovered with a useful limb.

It was necessary to fall back upon lateral incision into the joint on the peroneal side with lateral position of the limb, afterwards placing the limb in a slightly flexed wooden splint, giving up the desire of securing a fully extended limb. The result of this more simple and effectual means of discharging the contents of the joint, was not more favourable than in the cases relieved by chisel and mallet. The author remarks that in the worst class of knee gunshot wounds the mortality during the wars of the last ten years has fluctuated between 58 and 83 per cent. He concludes by the observation that surgeons must either have earlier and more frequent recourse to amputation, or discover some better means of conducting the suppurative processes within the knee-joint. It is evident that the more severe forms of shattered knee-joints from gunshot wounds are, despite Listerism, as dangerous to life as ever; a laudable confidence in antiseptic treatment, the natural result of its success in the less complicated injuries, may have led in the recent campaign in Asia to attempts to save limbs which in former campaigns would have been removed as early as practicable by amputation, and in so far an undue confidence in antisepticism may have done harm. In judging, however, of the results of any treatment of these serious injuries, we have to take into account many circumstances which tend to render nugatory the humanity, the science, and the experience of the surgeon. It would be interesting to the pathologist and therapeutist to know to what extent the efforts of the surgeon are more successful at the beginning of a campaign than towards the end, when, as in the Crimea, the constitutions of the men have been exposed to over-fatigue, inclemency of the seasons, insufficient and unsuitable diet, scurvy, depressing influences as to the prospects of the war, home-sickness, and the like. We should like to know the average age of the recovered and fatal cases, the proportion of seasoned to unseasoned soldiers; for it is probable that at one period of a campaign, when the weakest constitutions have been eliminated, the mortality from severe injuries might be proportionately diminished, or the tendency to evil later in the campaign, be equilibrated by their removal. At all periods of history the bulk of the fighting men have been very young, perhaps never more so than at the present time, when the Continental system of conscription and limited service with the colours prevail. We consider it to be incontestable that owing to the yet immature condition of the articular structures in the young, their joints are less tolerant of injury, a considerable proportion of young adults, strong in muscle, active, and apparently robust, possess joint-tissues prone to take on suppurative action when injured, whatever principles of surgery may be practically applied.

These considerations prompt us to remark that experimental conservative surgery in the lower extremity, in its desire to save limbs in case of severe complicated injuries of the knee-joint, should look to the constitution of the individual as far as this can be done during the pressure of events in warfare, and perhaps afford the sufferer a better chance when having to repair the smaller bony injury effected by amputation in the comparatively compact shaft of a long bone, than by having to repair a much larger injury of bony tissue of the articular ends of bones and of joint surface, both being particularly prone to suppuration. We

have not the statistical figures before us, but assuming that the average of amputated thigh exhibits 50 per cent. of failures, there is a wide margin of hoped-for success against the 80 and 90 per cent. of deaths from the severest gunshot wounds of the knee. Dr. Reyher's success with antiseptic treatment thoroughly carried out would lead us to expect, if Lister's views of the efficacy of antiseptics in preventing suppuration be correct, that it ought to be as successful in the management of an amputated surface as of a joint wound. We need statistics of primary amputations of thigh in the severer knee injuries during the late war to enable us to judge.

Dr. Reyher has appended tables in which the total 81 cases are grouped according to the precise degree of injury of particular parts of the knee, the capsular ligament, the patella, the condyles, and combined injury of the whole of these parts. These tables clearly show that even in the severest class of cases—those needing, in fact, the discovery of some means of diminishing the frightful mortality of gunshot wounds of the knee—Lister's antiseptic treatment stands out pre-eminently as the means of having saved many lives. Thus four cases in which the projectile was driven into the joint, and which were throughout treated antiseptically, all recovered, whilst of fifteen similar cases treated by secondary antiseptic treatment, only one recovered, which shows a mortality of about 93 per cent.; and of nine cases treated without antiseptics at any stage, the whole died, a mortality which Dr. Reyher represents as 100 per cent., the idea of doing which would excite a smile were it not in relation to so grim a subject. It would have added to our means of correctly judging as to the comparative value of primary and secondary Listerism as against non-Listerism, if Dr. Reyher could have informed us how soon after the receipt of the injury the respective modes of treatment were commenced.

Elsewhere (page 163), when treating of spinal abscesses, grave doubts have been expressed as to the value of Listerism in the generality of those cases, but in relation to gunshot wounds of the knee, these comparative results of antiseptic surgery in Dr. Reyher's hands are as surprising as they are gratifying. Dr. Reyher is well and personally known to many in this country, is looked up to by his surgical colleagues in Germany and Russia as a man of the highest honour and veracity, as well as skill. It must be admitted by all that this recent contribution of surgical triumphs effected by the aid of antisepticism, achieved amidst the lamentable sanitary condition of the sick and wounded of the Asiatic portion of the Russo-Turkish war, is a splendid page in the progress of our art, due to the genius of Lister, and the zeal and perseverance with which Lister's method has been pursued by one of the foremost surgeons of Northern Europe.—*Doctor*, August 1, 1878.

Midwifery and Gynæcology.

Vomiting in Pregnancy.

In the *Deutsche Medicinische Wochenschrift*, May 25, 1878, Dr. RHEINSTAEDTER remarks that, in addition to the irritation of the nerves of the uterus caused by the stretching of the uterine fibres, the pressure of the surrounding pelvis upon the enlarged uterus is an important factor in the early vomiting in pregnancy. This theory is supported by the two following facts: 1. In those cases where the vomiting is not early controlled, it ceases for the most part from the

moment when the uterus rises up out of the pelvic into the abdominal cavity. 2. The vomiting is most frequent and violent early in the morning when the bladder and rectum, especially the latter, are most likely to be distended. From these considerations, the author draws the following indications for treatment: Care must be taken early to keep the lower bowel empty, either by laxatives or by enemata. The diet is to consist of milk and light food, with wine, if it can be borne.—*London Med. Record*, July 15, 1878.

—

Treatment of Cracked Nipples.

In the *Berliner Klinische Wochenschrift*, No. 14, 1878, Dr. HAUSSMANN relates two cases of cracked nipples, which he treated with solution of carbolic acid. The mode of application consists in the renewed application every two or three hours, during two or three days, of dressings soaked in a two per cent. solution of carbolic acid. In the first case Dr. Haussmann used a five per cent. solution, but he found the weaker (two per cent.) solution equally effective. The advantages of this treatment are that the pain disappears almost immediately, and that the medicament, being in a fluid form, reaches all the recesses at the bottoms of the fissures and cracks. This is proved by the fact that, after each fresh dressing, a sense of smarting is felt throughout the whole breast. Before applying the child to the breast, it is necessary to wash the nipple. In the cases described by Dr. Haussmann, the mothers were able to suckle their children within a few hours after the first application of the carbolic lotion, and the nipples were entirely healed in two days.—*London Med. Record*, July 15, 1878.

—

Changes in the Uterus resulting from Gestation.

Dr. JOHN WILLIAMS, at a late meeting of the Obstetrical Society of London (*Medical Times and Gazette*, August 3, 1878), read a paper on some of the changes in the uterus resulting from gestation, and on their value in the diagnosis of parity. The paper was suggested by the difficulty which occurred in the Wainwright murder case of determining whether the uterus of Harriet Lane had ever borne a child. The conditions to be described were those which remained after the process of involution was over—say, the eighth week after delivery. The only certain marks were to be found in the bloodvessels of the uterine wall; they appeared to be affected by the retrograde process in a less degree than the tissues of the uterine wall generally. In a section of a uterus which had undergone involution, the arteries projected beyond the surrounding surface, presented thick yellowish-white walls, more opaque than the tissues around, and their canals remained patent. On microscopical examination, the connective tissue around the arteries was found to be increased in quantity, the arterial muscular coat was greatly hypertrophied, and the inner wall considerably thickened. The vessels appeared, moreover, more numerous than in the virgin organ. To estimate the exact value of these conditions in the diagnosis of the existence of previous pregnancy, three questions should be answered: 1. Was the condition described present in all uteri which had been gravid? 2. Was it a permanent condition? 3. Was it simulated by disease? Setting aside such rare and exceptional cases as those in which the uterus became reduced after parturition to a mere membranous sac, the author had found the characters he had described in all the uteri that had borne children which he had examined during the last five years. He had found them as long as fifteen years after the last pregnancy, and eight years after the cessation of menstruation, and under such circumstances their permanency he thought might be fairly inferred. He had never seen the appearances brought about by disease, and neither he, nor, as far as he was aware,

any other observer, had found them in the virgin organ. It could not, indeed, at present be asserted that the state of the uterine arteries described furnished positive proof of parity, but at the same time it must be admitted that it afforded the strongest presumptive evidence we possessed of that condition, while further research might show that it amounted to absolute proof of previous gestation. Passing on to the veins or sinuses of the uterus, the author said that these were all enlarged during gestation, but the enlargement was far more marked in that part of the wall to which the placenta was attached. Friedländer had investigated the condition of this part during the last two months of pregnancy, and found that at the eighth month many of the venous sinuses were surrounded by a wall 0.04 mm. in thickness; this wall contained abundant tolerably large nucleated cells in a clear homogeneous matrix, which became distinctly coloured by carmine solution. The contents of the sinus appeared to consist not only of blood corpuscles, but also of a greater or less number of dark granular cells, containing two to five nuclei, one of which had the appearance of a vacuole. These, which were regarded by Friedländer as wandering cells from the decidua, at last completely filled the sinuses, and coagulation took place, the clots showing a network of fine threads. Other sinuses, though not filled with these cells, also contained coagula at this period (eighth month). The author had only had an opportunity of examining one pregnant uterus, but after delivery he had not unfrequently found clots with a network of fine threads, though he had only rarely seen accumulation of large granular cells occupying the sinuses near the inner surface. At the end of four weeks, however, a great change had taken place. The walls of the sinuses at the placental site were much thickened, being due in part to a thin zone of connective tissue, within which was a granular glassy-looking transparent substance thrown into folds. The interior of the vessel was either entirely filled with these folds, or its centre was occupied with the organized remains of a clot, or a narrow lumen might still be left. The folded layer when torn by needles broke into particles of a polygonal shape, similar to some of the epithelial cells originally lining the sinus, and it appeared to be a distinct growth resulting from the proliferation of these cells. This condition had been found by the author, though somewhat indistinctly, twelve months after delivery. It might therefore be regarded as diagnostic of the previous existence of pregnancy, and, when found, justified a positive answer as to parity. It was true the structures described were not permanent, but they were discoverable for twelve months after parturition.

—

Condition of the Decidua of the Ovum as a Sign of Mature or Immature Ova.

In the *Centralblatt für Gynäkologie*, May, 1878, Dr. F. AHLFELD remarks that, as far as his knowledge of the subject goes, he has not seen the condition of the decidua in relation to the question as to a child's having been born prematurely or at term discussed. Dr. Ahlfeld finds that in the imperfectly ripe ova the structure of the decidua is essentially different from that in the ripe ova. In the decidua of an ovum expelled in the last months of pregnancy there is present a very beautifully injected network of vessels. The earlier the ovum is expelled, the larger are the vessels seen on section in the decidua; the nearer to the end of pregnancy the ovum is expelled, the smaller are the injected vessels. At the end of pregnancy, the vessels have entirely disappeared. The structure of a decidua at full term is devoid of injected vessels, or only a few are to be found near the border of the placenta. The colour of the decidua is also changed; at full term it is of a whitish-yellow appearance, while during the earlier months of pregnancy it is of a reddish hue.—*London Med. Record*, July 15, 1878.

Ovariotomy in a Child aged Twelve Years.

Dr. T. BARLOW, at a late meeting of the Clinical Society of London (*Med. Times and Gaz.*, May 25, 1878), read notes of this case, which had been under the care of himself and Mr. Howard Marsh at the Children's Hospital, Great Ormond Street. The enlargement was on the right side of the child's abdomen, and consisted on the extreme right of a hard mass, internal to which, and attached to it, was a tight cyst. The whole tumour was slightly movable and painless, and had been eighteen months growing. The child had scarcely any symptoms; she suffered only from a little constipation. Her temperature was normal. Chloroform having been given, a hypodermic syringe was introduced into the cyst two inches below the umbilicus, and one drachm of clear straw-coloured fluid was withdrawn. Next day the temperature had risen to 99.4°. Four days subsequently the tumour was considerably collapsed, the abdominal surface was flattened, and the hard part of the tumour was now quite definite. It evidently contained some material as hard as bone. The cyst had become quite soft and flabby, and gave no evidence of fluid. After about six days the cyst refilled. Fifteen days subsequently it was completely aspirated, and six pints of fluid were removed. The cyst, however, again filled. Ovariotomy was then performed by Mr. Marsh. There were no adhesions between the tumour and its surrounding parts. When it had been thoroughly exposed by the incision into the abdomen, it was tapped, and eighty ounces of light brownish-green fluid were drawn off. The remaining solid portion of tumour was still too large to be drawn through the opening, which was three inches long; it was consequently extended nearly to the pubes. The thick and fleshy pedicle was clamped by Mr. Spencer Wells's method and divided. Bleeding points in the omentum were secured by catgut; and the wound was closed with sutures. No subsequent bad symptoms occurred. Pain in the abdomen was treated with morphia suppositories. After the eighth day several sutures were removed; the bowels acted spontaneously on the twelfth day; and the clamp dropped off the pedicle on the thirteenth day. For some weeks the stump of the pedicle remained protruded and covered with florid granulations. It at length became completely retracted, and the child was discharged well about eleven weeks after the operation. The tumour weighed two pounds eleven ounces; it measured six inches across, and seven inches from above down, and was nearly spherical in shape. The lower half was composed of a thin-walled cyst, capable of holding a large cocoanut; it had projecting into its cavity several smaller cysts. The hard part contained a plate of bone measuring two inches by four inches, and other smaller pieces of bone. There were cysts at the upper and outer part of the growth, with gelatinous and solid contents; many of which contained sebaceous matter, with collections of dark, short hairs. There were also fibroid bands and irregular spicula of bone interposed between some of the cysts The child had not menstruated.

Mr. MARSH remarked that such operations in children were by no means unique. Mr. Spencer Wells had operated successfully upon a child eight years old; and in the *American Journal of the Medical Sciences* there was a record of successful operation where the child was only seven years old. At Bonn, a child aged two years had been operated upon and perfectly recovered. In all the cases, he believed, the cysts were dermoid.

Mr. MAUNDER said one important feature in connection with cystic tumours of the abdomen was the question of a preliminary tapping. He had known, and doubtless others present were acquainted with, instances in which the simple tapping of an ovarian cyst had led to fatal peritonitis. He was therefore strongly of opinion that this should not be done except in obscure cases, and as an aid to

diagnosis. The case under consideration indicated a leakage into the peritoneal cavity, notwithstanding the small instrument that had been used; but fortunately no serious result followed. Assuming the radical operation justifiable in a given case, it is very undesirable to submit the patient to additional risk without corresponding advantage.

Dr. WILTSHIRE remarked that in dermoid cysts the fluid was made up of decomposed skin-products, etc., which, oozing into the peritoneum through the puncture made with the canula, were very apt to set up peritonitis. In a patient with such a cyst, he had seen a severe attack of peritonitis supervene upon tapping. After her recovery, a second cyst filled; this had been opened, and still remained open. In most children cysts of the ovary were dermoid.

Dr. COUPLAND stated that the fluid drawn off in this case was thin and pellucid, and came up through a hypodermic syringe; consequently, this cyst was not dermoid.

Mr. CALLENDER said that as the fatal results which might ensue from these tappings were well known, it seemed desirable to draw off a large quantity of fluid, that the cyst might collapse and no further fluid exude. When only a small quantity was drawn off, the tension of the cyst-wall was scarcely diminished.

Dr. BARLOW said that at Great Ormond Street, in very many cases of the use of the hypodermic syringe, no harm had resulted. In regard to hydatids also, even if (after tapping) the remaining fluid exuded into the peritoneal cavity, no harm seemed to come of it. If surgeons would use a hypodermic syringe more frequently, they would learn the advantages of it. Dr. Wilson Fox had taught that, after puncture in pleuritic effusions, the serum might be transformed into a purulent liquid. Dr. Barlow, however, had seen oftentimes the removal of a small quantity of pleuritic fluid seem to be the first point in the absorption of the rest of the fluid itself.

—

Dilatation of the Uterus by Laminaria Tents.

In the *Centralblatt für Gynäkologie*, No. 7, 1878, Dr. SCHULTZE describes his mode of antiseptic dilatation of the os uteri by laminaria tents. The introduction of a laminaria tent is never effected when there is any wounded surface with which it might come into contact. Previously to the introduction of a tent, the length, direction, and calibre of the uterus are made out by means of pliant copper or silver sounds. If there be bleeding after the introduction of the sound, the tent is not introduced until twenty-four hours later. The vagina is washed out with a three per cent. carbolic solution, and a tent, bent to the shape indicated by the pliant sound, is introduced. A pledget soaked in carbolic solution is packed in the vagina to support the tent. The above procedure is performed through a speculum, the patient being placed in the knee-elbow position, which is again resorted to for the removal of the old and the introduction of the new tent.—*London Med. Record*, July 15, 1878.

Medical Jurisprudence and Toxicology.

Poisoning by Arsenical Violet Powder.

The recent cases of arsenical poisoning at Loughton are, in many respects, unique in medical as well as in legal experience. There has been no similar instance, so far as we can discover, of a trial for administering arsenic by outward application, although there are cases innumerable of trials for administering it

internally. Indeed, on account of the facility with which it can be procured, and the ease with which it may be secretly administered, it is the poison most frequently chosen for the purpose of committing both suicide and murder. The literature on the medical side of the question affords very few instances of deaths from poisoning by the application of arsenic to the skin, and such cases as are given are all, or nearly all, isolated ones. There does not appear to have before occurred any such succession of cases as those at Loughton, and especially the fact of violet powder being the medium of the poison seems to be novel in medical experience. The absence, moreover, in all the cases of the vomiting and purging characteristic of the internal administration of arsenic is worthy of note.

Considerations of space make it impracticable for us to pursue further the scientific and medical aspects of the case, but the circumstances of the epidemic (if it can be called by that name) are so peculiar, and the evidence that it was caused by the use of the particular violet powder in question so strong, that we make no apology for giving its history in some detail.

For several months previous to March of this year a number of mysterious deaths of young children had occurred in the parish of Loughton, in Essex, for which no satisfactory reason could be assigned. The deaths had been referred to "inflammation of the nates," "gangrenous inflammation of the genitals," and the like, but this was felt to be scarcely the real solution of the difficulty. The symptoms appeared to point to the illness being of the nature of erysipelas, and as such it was considered until events occurred which turned the suspicions of the investigators in quite another direction.

The first person who seems to have imagined that violet powder was at the bottom of the outbreak was Mrs. Deacon, the wife of an advertising agent living at Loughton. This lady was confined on January 2 of this year, and violet powder purchased from a chemist was used to her child for six weeks without any ill effects. Subsequently a second quantity of powder was purchased from a grocer's shop in the village, and two days after it was used to the baby open wounds appeared in the groins of the child and behind one of its ears. Mrs. Deacon suspected the powder, and threw it behind the fire. A week or two after the powder was discontinued, the child (which had been a healthy one before the powder was used) got better, and is now quite well. When the child had recovered, Mr. Deacon procured another packet of the same powder from the grocer's (a man named Nottage), and sent it for analysis to Dr. Jones, the analytical chemist. On the receipt of his report that the powder contained nearly 25 per cent. of arsenic, Mr. Deacon communicated with the Home Office on the subject. One of the medical inspectors of the Local Government Board (Mr. W. H. Power) was sent down to inquire into the circumstances; and after learning the result of his investigation the Government directed the prosecution, which has resulted in the committal for trial of the manufacturer of the powder on the charges of manslaughter and misdemeanor.

It was very fortunate that the illness of Mr. Deacon's child occurred when it did, as all the previous cases had been amongst the children of the poor, and the cause of the epidemic might have remained to this day undiscovered if the attention of some one in a superior position in life had not been drawn (as Mr. Deacon's necessarily was) to the disastrous effects attending the use of the powder purchased at the shop of the grocer Nottage. Nottage, it appeared, had bought of another grocer in the village, named Miss Grout, three dozen of the powders in February, 1877. Miss Grout was in the habit of purchasing violet powder from the defendant in the case, a Mr. King, of 14 Abbott Street, Kingsland Green, who described himself in his circulars as a "wholesale druggist, drysalter, and general packer." In the list of articles sold by him there was, under the

heading "powders," a description of penny packets of violet powder, the wholesale price of which was stated as being 6*s*. and 7*s*. a gross. These packets were in small boxes, similar to an ordinary match-box, and the price being so small they were naturally largely used by the poorer classes of mothers.

The result is sufficiently disastrous. Of twenty-eight infants on whom the powder purchased from Grout's or Nottage's has been used since March of last year, no less than thirteen have died, and all have suffered more or less from arsenical poisoning. This is in Loughton alone. Further evidence of the injurious effects of the powder reaches us from Epping, where several cases of arsenical poisoning amongst infants have been distinctly traced by the medical officer of health to the use of this particular powder.

During the trial of Mr. King, however, a number of packets of his powder, which on analysis were proved to contain a large percentage of arsenic, were seized by an officer from Scotland Yard at a stationer's shop in Cambridge Road, Bethnal Green, and it is more than probable that cases of injury have occurred from its use in this neighbourhood also.[1]

The three cases on which King has been committed for trial on the charge of manslaughter are those of Florence Sarah Martin, Eliza Sear, and Alfred Harrington. The mother of the child Martin stated that, up to the time of its death, powder which had been purchased from Miss Grout was used to the infant in the usual manner, and shortly before its death a blackness was seen about the groin and the neck and arms. There were black watery blisters as though the baby had been scalded or burnt about the lower part of the stomach, which was very hard to the touch. A day or two before death (which occurred nine days after birth) there was a "breaking out" under the arms and ears, the parts turning very dark. This evidence was corroborated by the woman and the doctor who attended Mrs. Martin in her confinement. Mrs. Sear was unfortunate enough to lose two children after the application to them of violet powder with King's name upon it. The first child died on March 8, 1877, having been ill only from the Sunday week previously. The throat was much swollen, the skin was red, and numerous little "white heads" (pustules) black-spotted appeared on it. The second child, Eliza, was born on February 13, 1878, and on the day of its birth the mother sent to Miss Grout's shop for another packet of the powder. This was used, and the infant died on the 18th of the same month. It was a healthy child at birth, but its face turned very red, the skin broke out all over the face and neck, and the more the redness and soreness increased the more the powder was used, in the belief that it would do good. Soon afterwards the lower parts turned black. This appearance rapidly extended to the body generally, and on the day of the child's death it gave out from the nose and mouth a "kind of black blood." Its agony was awful, and during the night before its death it screamed continuously. In the case of the child Harrington, the powder was used soon after it was born. When it was two days old a pimple was observed on its body, and its groins turned purple. The body became blacker and blacker, and four days after it died. The child was restless, and moaned a good deal.

The symptoms in all the fatal cases as to which evidence was given at the trial

[1] Since the above was written, an inquest has been held by Mr. Humphreys on the body of a child ten days old, who died at Kingsland, of inflammation of the stomach and body, undoubtedly caused, according to the medical evidence, by the use of violet powder. The case has been adjourned for the attendance of several witnesses, and the analyzation of the powder; and we are unable therefore to state at present what was the particular adultrant in the powder. It is but right to state that, so far as the proceedings have gone, it does not appear that it was Mr. King's powder which caused the mischief.

were similar to those above indicated. The first change observed was frequently a blackened condition of the skin of the groins and pudenda, and of the armpits and folds of the neck, which quickly became swollen and hard. These several parts were invariably attacked at the same time. In some instances vesication, variously described as "little white blisters," "yellowish bladders," or "bags of water," preceded or appeared about the same time as the blackness; in others, blackness with or without vesication was preceded at a short interval by a bluish-red condition of the parts affected. The vesicles, on breaking, discharged clear fluid, and left raw black surfaces. The constitutional symptoms were great restlessness, with fits of screaming or crying, and soon after a condition of collapse, in which the child died quietly. The average duration of illness in these cases was four to five days. In the non-fatal cases the chief symptom appears to have been the formation of the blisters or bladders already referred to, which appeared in almost all the cases. The other characteristics, however, occurred in nearly every case with more or less severity.

The symptoms described are exactly those which are stated in the medical works on the subject to follow on the application of arsenic to the surface of the human body. Indeed, all the medical witnesses concurred in assigning the cause of the deaths of these thirteen children to arsenical poisoning, and there seems no reasonable doubt that this is the correct interpretation. Whether or not the actual poisoning was effected by the use of the violet powder sold by King will be decided once for all at the next Chelmsford Assizes, and obviously it would be highly inconvenient for us at the present moment, whilst the case is still *sub judice*, to make any observations on the connection between the poisoning and powder manufactured by Mr. King. We content ourselves by pointing out that the Government analyst finds in the remaining portions of three packets of his powder which had been used with disastrous effects on the bodies of three separate children a percentage of arsenic amounting to 50.34, 51.40, and 48.94 respectively. The only explanation that has at present been advanced with regard to the presence of the arsenic is afforded in the evidence of Dr. Jones, the chemist who analyzed the powder for Mr. Deacon. Dr. Jones stated that white arsenic was much cheaper than starch, being sold at 10*l.* a ton. Arsenic is about four times as heavy as starch, and ought easily to be recognized when mixed with it by persons dealing with such things. But the vendors of this particular mixture were keepers of general stores of oils and grocery, who could not be expected to have the knowledge of a chemist and druggist.

Whatever may eventually prove to be the conditions under which the admixture was made in the cases now under investigation, it is clear that the public need to be on their guard when purchasing at unauthorized shops, and at too cheap a rate, preparations sold for use in the toilet and nursery which may be subjected to adulterations more or less mischievous, for the purpose merely of increasing the gain of the manufacturer or vendor. Infant life is exposed to by far too many dangers for another addition to the list to be contemplated with equanimity. Lack of maternal care, improper feeding and exposure, the too frequent use of narcotics and soothing medicines, want of cleanliness in homes and persons, and the ignorance and negligence of parents in not seeking promptly the advice of a qualified medical man, already swell to a very undue proportion the death toll amongst the children of our labouring population, and if to these influences be added poisoning by powder which is applied to the bodies of infants with the intention of benefiting them, the case becomes serious indeed.

We cannot, however, think that the mischief is so widespread as appears to have been apprehended, and we trust that we have heard the last of cases of injury from powder of this description.—*Sanitary Record*, June 21, 1878.

CONTENTS.

Anatomy and Physiology.

On Hæmatoblasts. By M. G. Hayem . 385

Materia Medica and Therapeutics.

The Action of Arsenic. By Gies . . 386
The Action of Drugs on the Liver. By Dr. Rutherford 386
Camphor as a Narcotic for Female Lunatics. By Dr. Eugene Wittich . . . 387

Medicine.

Leucocythæmia with Paralysis of Cerebral Nerves. By Dr. C. Eisenlohr . . . 387
Local Treatment of Meningeal Affections in Acute Articular Rheumatism. By Dr. Mosler 387
Results of the Cold-water Treatment of Typhoid. By Dr. Goltdammer . . 388
Tremor following Acute Diseases. By Dr. Clément 389
Symptomatology of Meningoencephalitis. By M. Viel 390
Athetosis. By Dr. Oulmont . . . 391
Concussion of the Spinal Cord; Symptoms of Localization. By M. Duplay . . 392
Lead-Palsy, and Subacute Atrophic Spinal Paralysis of Adults. By Dr. M. Bernhardt 394
The Cause of Distortions in the Spinal Paralysis of Children. By Dr. A. Seeligmuller 399
Acute Ascending Paralysis. By M. Degerine 399
Alleged Cure of Tubercular Meningitis . 400
Mumps and Parotidean Orchitis. By Prof. Laveran 401
Case of Bilateral Paralysis of the Dilator Muscles of the Glottis (Posterior Crico-Arytenoid); Recovery. By Dr. Meschede 401
Case of Fatty Effusion into the Pleura (Hydrops Adiposus Pleuræ). By Dr. Boegehold 403
Pulmonary Œdema. By Dr. Welch . . 404
Absorption of Foreign Bodies by the Lungs. By Rappert 404
Acute Aortitis. By Dr. Leger . . . 405
Syphilitic Arteritis. By Dr. Paul Baumgarten 406
Changes in the Small Bloodvessels in Bright's Disease. By Dr. A. Ewald . 406
Chronic Interstitial Nephritis. By Dr. Senator 407
The Diagnosis of Amyloid Kidney . . 407
On a Peculiar Form of Albumen in Urine. By Dr. W. R. Gowers 408
Amyloid Degeneration of Lymphatic Glands. By M. Cornil 410
The Bones in Pernicious Anæmia. By Professor Osler 410
Hereditary Syphilis. By Prof. Parrot . 411

Surgery.

Auditory Disorders in Bright's Disease. By M. Dieulafoy 413
Penetration of Dust into the Lungs after Tracheotomy. By M. Balser . . . 413
The Antiseptic Treatment of Empyema. By Prof. König 414
Ligature of the Arteria Innominata for Aneurism of the Subclavian Artery. By Mr. R. T. Gore 416
Ligature of the Carotid for Hemorrhage after Erysipelas. By M. Denuce . . 417
Castration. By Dr. Poinsot . . . 418
Cystic Sarcoma of the Lower Jaw, removed without External Incision. By Mr. Maunder 419
Case of Loose Cartilage becoming Adherent after Venous Thrombosis with Pulmonary Embolism. By Dr. Aufrecht . 420
On the Value of Antiseptic Treatment of Penetrating Gunshot wounds of the Knee. Dr. C. R. Reyher 421

Midwifery and Gynæcology.

Vomiting in Pregnancy. By Dr. Rheinstaedter 424
Treatment of Cracked Nipples. By Dr. Haussmann 425
Changes in the Uterus resulting from Gestation. By Dr. John Williams . . 425
Condition of the Decidua of the Ovum as a Sign of Mature or Immature Ova. By Dr. F. Ahlfeld 426
Ovariotomy in a Child aged Twelve Years. By Dr. T. Barlow 427
Dilatation of the Uterus by Laminaria Tents. By Dr. Schultze 428

Medical Jurisprudence and Toxicology.

Poisoning by Arsenical Violet Powder . 428

Published Monthly, price $2.50 *per annum, free of postage.*

Also, furnished together with the AMERICAN JOURNAL OF THE MEDICAL SCIENCES *and the* MEDICAL NEWS AND LIBRARY *for* SIX DOLLARS *per annum in advance, the whole free of postage.*

HENRY C. LEA, Philadelphia.

THE MONTHLY ABSTRACT

OF

MEDICAL SCIENCE.

VOL. V. No. 10. **For List of Contents see last page.** OCTOBER, 1878.

Anatomy and Physiology.

The Origin of the Red Blood-Corpuscles.

AT the Biological Society of Paris, on March 2d, M. POUCHET made the following communication on the origin of red blood-corpuscles. The "elementary corpuscles" of the blood were first noticed by Donné in 1840, who confounded them with the granules in chyle; in 1846 they were well described by Zimmermann; and recently they have been brought prominently forward by M. Hayem as the germs of the red blood-corpuscles. This function M. Pouchet believes he has demonstrated by experiment; as also that certain flattened elliptical bodies, larger than red blood-corpuscles, constantly found and till lately considered pathological, are intermediate forms between elementary and red blood-corpuscles. "Elementary corpuscles" are probably derived from leucocytes by a cell-mechanism analogous to that by which the polar globules are expelled from the yolk. This theory is supported by experiment, for, firstly, they have throughout their growth the same reactions with colouring matter as leucocytes have; and, secondly, in ovipara, leucocytes fix hæmoglobin at the expense of the surrounding serum (Vulpian), and in mammalia they show the same tendency (Semmer); so then "elementary corpuscles" will act similarly, if, indeed, they are really, as it were, outcast from the bodies of leucocytes. It is also supported by the mode of development of leucocytes themselves, which being at first small and unnucleated, come at last, by a process similar to the cleavage of the yolk about the time of the extrusion of the polar globules, to have with increased size, first two and then four nuclei. The verification of this presumed origin of "elementary corpuscles" does not seem easy at first sight, leucocytes being in an abnormal condition as soon as withdrawn from the circulation. In his experiments, M. Pouchet placed part of the mesentery of a rabbit beneath the microscope, and compressed lightly a mesenteric vein. Soon leucocytes were observed to attach themselves to the vascular walls in groups, along with masses of elementary corpuscles, or one leucocyte might be surmounted by a tuft of elementary corpuscles; in such circumstances he frequently found that the adherent corpuscles already contained a considerable quantity of hæmoglobin. Without doubt, it might be objected that these corpuscles are always free when in circulation, and become agglutinated to the leucocytes, as may happen to the latter between themselves under various conditions. Still everything seems to indicate that it is not so, but that these corpuscles are direct rejections or emanations from the contractile bodies of the leucocytes.—*London Med. Record*, Aug. 15, 1878.

—

The Physiology of the Salivary Secretion.

The precise mode in which secretion is effected is still, notwithstanding all the attention that has been bestowed upon it, shrouded in considerable mystery. In

the case of the kidney, various evidence tends to show that the watery part is eliminated at one part and the salts at another, but scarcely any positive facts of this nature are known in regard to other secretions. An able article has, however, just been published by HEIDENHAIN in the last part of Pflueger's *Archiv*, which seems to throw some light on the point in question. The proposition Professor Heidenhain endeavours to establish is that the secretion of water and salts on the one hand, and of organic material on the other, are not in direct causal connection with each other, but are separate acts under the control of two different sets of nerves, the secretory and the trophic, which, however, for the most part, run in the same nerve-trunks. The facts on which he relies to prove this are, that whilst the activity with which saliva in the case of the submaxillary gland is secreted augments with the degree of stimulation applied to the nerves, provided these are not exhausted, the percentage of salts increases likewise to a certain maximum, quite independently of the previous condition of the gland. On the other hand, the percentage of organic matter it contains, though also augmented with the degree of stimulation applied to the nerves, does not bear a constant ratio to this, but is strongly influenced by the previous condition of the gland, and especially by the intensity and duration of the previous excitation. If the gland be continuously excited for some time, it will be found that though the quantity of the saliva—*i. e.*, the quantity of water—remains the same, as well as the amount of salts it contains, the proportion of organic matters gradually decreases, because apparently the amount of pabulum in the gland is used up. That variations in the elimination of the watery and saline parts of the saliva on the one side, and of the organic matters on the other, do not run a parallel course, is further shown by several experiments. In the first place, taking a fresh and unexhausted gland, if the strength of the stimulus be gradually increased, the flow of saliva augments, and with it the proportion of both organic and of saline constituents, but the former in larger proportion. But if to a gland already exhausted a still stronger stimulus be applied, although it appears to respond to the lash, it does so only so far as the watery and saline constituents are concerned. the organic material either actually diminishing, as occurs with a moderate increase in the strength of the current, or requiring a very strong current to produce a very slight increase, and even this, if the gland be much exhausted, may altogether fail. Lastly, if in a fresh gland the stimulus be gradually increased, and then again diminished, in intensity, the quantity of the saliva as well as of the saline and organic constituents will be found to rise and fall, but not in equal proportion, the watery and saline parts diminishing to a greater extent than the organic, the difference being better marked the more intense the temporary increase of stimulation is, from whence Heidenhain concludes that a very strong stimulus leaves a secondary or after-condition which renders the gland more disposed to eliminate organic matter. It would thus appear that there is an intimate connection between the water and the salts of the saliva, the proportion of these rising and falling together in accordance with variations in the strength of the stimulus; whilst the amount of the organic constituents, though broadly agreeing with these in its variations, yet follows laws of its own; and it is this difference which leads him to think that the elimination of the watery and saline constituents is under the control of one set of nerve-fibres, the secretory, whilst the organic substances are subject to the influence of another set, the trophic nerves.

Professor Heidenhain next proceeded to investigate the relations of the parotid gland, which, as he remarks, there is no ground for assuming should necessarily present the same behaviour as the submaxillary to the nervous system. He corroborates Loeb's statement that the motor nerve of the gland runs in the nervus petrosus superficialis minor, and points out that the parotidean saliva is not al-

ways so watery as is generally supposed, that it is liable to remarkable variations in regard to the amount of organic and inorganic constituents, and that, under different conditions, the quantity of the latter held in solution is double, and of the former twenty-five times, the ordinary amount. In regard to the influence of stimulation of its nerves, the effects are in all respects similar to those already described in speaking of the submaxillary gland. He found, moreover, that the sympathetic nerve possessed a powerful influence over it; since if this was stimulated shortly before, or coincidently with, Jacobson's nerve, there was an immediate increase in the quantity of organic substances eliminated by the gland, though there was no increase in the absolute quantity of fluid discharged. The sympathetic contains the vaso-constrictor fibres of the gland, and it might be supposed that the change in the secretion was due to changes in blood-supply, but a very curious fact came out from his further experiments, namely, that ligature of the carotids, though somewhat diminishing the absolute amount of saliva eliminated, had no influence on the solids it contains, either in the case of the parotid or of the submaxillary gland, which shows well the complete independence of secretion on blood-pressure.

Heidenhain next undertook to examine the parotidean saliva of the rabbit, in relation, on the one hand, to the chorda tympani, which was shown by Rahn to contain secretory branches for this gland, exciting the flow of what may be called cerebral saliva; and on the other to the cervical sympathetic, which V. Wittich and Nawrocki have shown to lead to the secretion of so-called sympathetic saliva. The parotid of the rabbit is well adapted for experiments of this nature, since it contains a diastatic ferment that is absent in the secretion of this gland in the carnivora. He found that small quantities of pilocarpin injected subcutaneously produced the same effect as stimulation of the chorda tympani—gave, in fact, an abundant flow of cerebral saliva, probably by acting on the same mechanism in the gland. The cerebral or pilocarpin saliva contained only 1.02 to 2.05 per cent. of solids, whilst the sympathetic saliva contained no less than from 3.72 to 6.65 per cent., the greater part consisting of organic matter. The secretory fibres of this gland therefore run in the glosso-pharyngeal and chorda tympani nerves, whilst the trophic are contained in the sympathetic of the rabbit. The histological changes in glands that occur with variations in the activity of secretion seem to differ to a very remarkable extent. We have no space for the details of the experiments he gives.

Professor Heidenhain advances the following view as the most satisfactory explanation of the facts he has observed: We must presuppose, he says, the presence of some substance in the cells having a strong affinity for water, and it is not unreasonable to assume that the protoplasm constitutes this substance. Water is first abstracted from the lymphatic spaces, and then secondarily from the interior of the blood-capillaries; and imbibition takes place into the protoplasm till a state of equipoise is attained, no change occurring as long as the gland is at rest, though the tension of the water in the protoplasm is considerable. The effect of excitation of the secretory nerves is to induce a change of the molecular arrangement in the limiting layer of the protoplasm on that side of the cell which is turned towards the lumen of the acinus, in consequence of which diminished resistance to the act of filtration occurs at this part. Water consequently escapes, the outflow being perhaps maintained or increased by contraction of the protoplasm, as Kühne has actually observed in the cells of the pancreas of the rabbit under the microscope. The tension of the water in the cells falls below the imbibition power of the protoplasm, and a current sets in from the blood-capillaries, and the escape of water from the inner surface and the absorption through the outer surface of each cell continue as long as the protoplasm contracts under nerve

influence. When the excitation ceases the protoplasm returns to its former condition, the current stops, and the gland returns to a state of rest. This view, it will be observed, does not make the excretion of water in any way dependent on the blood-pressure, whilst it explains why no more water leaves the capillaries than is required to make up what is withdrawn from the lymph-spaces, why, however long the excitation is applied, the lymph-spaces never become charged with excess of fluid, and why the excitation is neither accompanied nor followed by any increase of lymph in the efferent lymphatics.

The functions of the trophic nerves, he thinks, is to lead to the formation of soluble organic substances in the gland-cells, which are dissolved by the fluids eliminated under the influence of the secretory nerves. The organic constituents are not formed directly from the protoplasm, but during the period of rest, substances are formed which stand in close relation to the specific constituents of the gland. Thus, in the case of the pancreas, during rest, the zymogen of the trypsin is formed, from which the trypsin is afterwards developed; and thus in the mucus-glands, not the easily soluble mucin itself, but a substance that is easily convertible into mucin, is formed. It would otherwise be unintelligible why mucin does not appear in moderate quantity on slight irritation of the chorda, when the aqueous portion of the secretion is slowly percolating the cells. We thus obtain an explanation of the reason why the cells of quiescent mucous and serous glands are relatively poor in protoplasm, presenting a clear and but slightly granular aspect, whilst they are rich in the mother-substances of the proper products of the secretion. And hence, too, we learn why, after persistent activity, the glands are rich in protoplasm, as indicated by their marked cloudiness and granular aspect, whilst they contain but little of the material proper for the production of the organic constituents of the gland. In what mode the trophic nerves effect the conversion or aid in the elimination of the organic substances of the gland Professor Heidenhain does not attempt to explain.—*Lancet*, Aug. 3, 1878.

—

The Absorption and Excretion of Water.

The absorption of water from the alimentary tract is a subject to which less attention has been directed than its practical importance deserves, for the subject is not so simple as might at first sight appear. Dr. SKORCZEWSKI, of Cracow, has made an interesting series of observations on the relation in time and quantity between the absorption of water and the excretion of urine, and his results have been published in a Warsaw journal. The observations were made upon men and rabbits, and in the latter provision was made to secure the urine as soon as it passed into the bladder. Spring water, soda water, and certain Russian mineral waters (those of Krynica and Iwoniez) were employed in the observations. The following conclusions were reached. After the injection of spring water the quantity of urine did not increase immediately, in the case of either men or rabbits, but rose after a certain time, which is said to have been the longer the more water was taken. A longer period elapsed after the spring water than after the mineral water before the increase in the urinary secretion occurred; and the more spring water was taken the longer was this interval, and the mineral water the shorter was the interval. The increase in the urinary secretion reached its height sooner after the mineral water than after spring water. The greatest total effect on the urinary secretion was obtained with soda water, the next with spring water, and the least with the mineral waters. The quantity of urine was in each case smaller than the quantity of water ingested, with the exception of that which was saturated with carbonic acid. The difference between the total quantity of liquid taken and the total quantity of urine excreted was less after ordinary spring water than after the mineral water.

A second series of observations had for their object to ascertain the relation in time and quantity between the water absorbed and the urine excreted. This was effected by killing rabbits at certain periods after the water was injected into the stomach, the excretion of urine being observed in the same way as before. From these observations it appeared that the increase in the excretion of urine did not commence until after the whole of the water had been absorbed, and in the case of both small and moderate quantities of water (40 to 100 c.cm.) a period of ten or fifteen minutes passed after all the water had been absorbed before the effect on the urine was apparent. It is calculated that 500 cubic centimetres of water are absorbed from the human stomach in fifteen minutes, and 200 c.cm. in five minutes. These results are true, however, only of spring water. Mineral waters behave differently. The increase in the excretion of urine occurs the earlier the slower the absorption progresses. By the exclusion of certain possible causes for this difference, such as altered pressure in the abdominal cavity, direct irritation of the splanchnic nerve, or the effect of blood-tension, the conclusion is reached that the cause is the alteration in the blood consequent on the admixture with it of the saline substances in the mineral waters, the change in the blood acting as a stimulant to the vaso-motor nerves.

Whatever be the precise value of these researches, they show conclusively that the function of the stomach and kidneys may be materially affected by the presence of very small quantities of saline substances, and they indicate how much caution is necessary in applying rules true of pure water to water which we are accustomed to consider as differing from spring water by very trifling qualities. As an instance of the practical importance of these facts, it is evident that the saline waters, so commonly taken with food, remain in the alimentary canal for a much longer time than spring water, and are capable therefore of disturbing in a greater degree the process of digestion.—*Lancet*, August 24, 1878.

Materia Medica and Therapeutics.

Hypodermic Injection of Chloroform.

Recurring to this subject at the Paris Hospital Medical Society (*Gaz. Hebd.*, July 26), M. Dujardin-Beaumetz felt rather disposed to disparage this procedure, observing that in the horrible pains of cancer chloroform did not give relief as morphia does, an abatement of suffering of short duration being obtained, but not sleep. Moreover, nervous subjects, and those addicted to alcohol, do not derive any general relief. Independently of the danger of chloroform injections when performed by inexperienced hands, we cannot be certain of obtaining the results proposed to be obtained. In reply, Dr. Ernest Besnier, to whom we are indebted for the introduction of these injections, observed that there are two points to be noted with respect to these objections. First, with respect to the procedure; and next, as to how far they are substitutes for morphia. M. Dujardin-Beaumetz admits that accidents occur only where the operation is badly executed; but surely the practitioner ought to learn how to perform it, and not reject a method which furnishes favourable results merely because its execution requires some attention. Two things are requisite: a good syringe, and good needles of different lengths, for it is obvious that those which are employed for the face should be less long than those inserted into fleshy parts. The entire needle-canula must be introduced into the tissue separately, and then we should wait an instant to see

that a droplet of blood does not issue, proving that we had entered a vein. In this case the operation should be made in another point, and only then should the syringe be adapted and the injection proceeded with. Care must be taken that the point of the needle be at a certain distance from its point of insertion; and by observing this precaution, Dr. Besnier, who has always employed the same syringe, has met with no accident, although he has operated in almost every region, including even that of the wrist. As to the comparison of the chloroform with morphia injections, he has only used them when these last could not be borne, or when it was desirable to avoid morphinismus. He has cured sciatica with them, which has resisted all other treatment; and they may be made without danger. M. Duguet observed that he had tried them in several cases of sciatica, but although he found that they gave temporary relief, they had to be repeated, and did cure the disease. Dr. Besnier replied that the dose is of importance. He injects a syringeful first at the upper part of the limb, and then a second syringeful at the middle part, when the pain ceases. Next day he injects opposite the fibula. On each occasion from two to four grammes of chloroform are injected. Perhaps the best results are obtained in tic douloureux.—*Med. Times and Gaz.*, Aug. 3, 1878.

Medicine.

On Malignant Lymphomata.

Dr. WIEGARDT, of Warsaw (*St. Petersburg Med. Wochenschrift*, March 16) relates a case of malignant lymphoma of the lumbar retro-peritoneal glands in a man thirty years of age. Death occurred from exhaustion four months after admission to the hospital. At the necropsy the lymphatic glands of the neck and axilla, the bronchial and lumbar glands, were greatly enlarged, pale, and soft. In the anterior wall of the left ventricle of the heart there was a round tumour, about 2½ centimetres in diameter, soft, pale, and sharply defined by colour and consistence from the surrounding parts, but without a capsule. Near the apex, and in the left border of the heart, was a second tumour, as large as a nut, and another, as large as a walnut, was situated in the posterior wall of the heart; finally there was a little nodule the size of a pea in the wall of the auricle. The pancreas was enlarged, yellow-coloured, and soft. The retro-peritoneal glands formed a large irregular tumour, 19 centimetres (7½ inches) long, by 12 centimetres (4¾ inches) wide, and 8 centimetres (3 inches) thick, formed of masses up to as large as a goose's egg, matted together by dense fibrous tissue. There was no caseation or softening. The consistence of the tumours was generally soft, and their cut surfaces were moist, smooth, grayish-white or pale gray red. Some were somewhat harder, and their sections were more yellow-coloured. The spleen was double the normal size, hard, and dirty-brown on section; the trabeculæ were strongly marked; the pulp was not easily removed, and the capsule was thickened in places. The left kidney was about half as hard again as normal, and contained in its cortical substance many tumours, from the size of a pea to a nut, which in places projected on the surface, in other places penetrated the medullary portion. The right kidney was somewhat larger; it contained fewer, not more than twenty, tumours, most of them of the size of a pea and smaller; four were as large as a nut, and one as large as a walnut. The entire left iliac fossa was filled with a nodulated new growth, about 4 or 5 centimetres thick;

the tumour involved the whole thickness of the ilium, but it was sharply defined from the bone-substance, which was very porous, soft, and brittle. The outer surface of the ilium was not altered. The other pelvic bones were normal. The marrow of the femur, humerus, the sternum, and ribs showed no change. The white blood-corpuscles were not increased; they were rather fewer in fact.

The structure of the tumour presented on microscopical examination the usual appearance of small round cells, like lymph-corpuscles, pale, with slightly granular protoplasm, and one nucleus, seldom more. These cells were imbedded in a delicate reticulum of these fine fibres, which could be made visible by brushing or shaking out the cells. The new growths under the microscope were not so sharply limited off from the healthy tissues as they appeared to the naked eye; they grew peripherally, and extended in the interstitial tissues of the organs. In the pancreas there were found at first small groups of round cells between the acini, which rapidly increased in numbers so as to atrophy the latter, which lost their proper coats, became converted into small heaps of lymphoid cells, and finally disappeared. Very similar changes occurred in the urinary tubules of the kidney. In the heart, the muscular fibres near the tumours lost first their transverse striation, became granular, then smaller, finally fibre-like, and then completely disappeared. In a similar manner the trabeculæ of bone in the ilium were atrophied and compressed by the extensive new growth. At the border of a speculum of bone one saw often curved notches, frequently with secondary notches, like Howship's lacunæ, filled with closely packed round cells. More frequently the bone-capsules were enlarged, and contained an enlarged cell strongly coloured by carmine, sometimes lying against the wall, sometimes lying free in the centre, here and there also many cells having the appearance of the second; so that one is led to believe that they took part in the new growth, although no distinct trace of division or multiplication could be found. These widened lacunæ in places coalesced to form still larger spaces in the bone. Another mode by which the bone was destroyed was by the infiltration of round cells between the trabeculæ of bone, compressing them, and converting them into smooth spindle-shaped fibres, and finally into connective tissue. The tumour was a very characteristic example of malignant lymphoma. Beginning in a group of lymphatic glands, it had completely the characters of hyperplasia, not extending beyond the glands to their surroundings, but extended from connective tissue and along it, showed no tendency to retrograde changes, no caseation or softening, extended from the lymphatic glands and forming metastases finally. To all appearance, we are entitled to regard the retro-peritoneal and mesenteric glands as the seat of the primary lesion; but this seat of origin is very rare. Most authors give the glands of the throat and neck, or less commonly those of the axilla and mediastinum, as the general places of origin. Lücke gives the lumbar glands, the retro-peritoneal and mesenteric glands, and Billroth and Dickinson give cases in which these glands only were affected. Some years ago the author saw a similar case in the Ivangorod military hospital; the abdominal tumour was as large as a child's head, and the lumbar glands were only affected. The metastasis to other organs is not common, and the regions in which these occurred are not generally those in which they are met with. Usually they are in the liver and spleen, which in this case were free. Metastases in the kidneys are rare; Wilks, Wunderlich, and Hüttenbrenner have described them. The author knows of no case of secondary growth in the pancreas, except the one recorded by Hüttenbrenner. Metastases in the heart have been described by R. Mayer and Murchison. He has been able to find no case of metastasis in bone. Tommaso Crudeli has described a case of diffuse, not leukhæmic, lymphoma of the skull and other bones, which, however, does not belong here, as the tumours

grew from the periosteum, and did not affect the bone itself.—*London Med. Record*, Aug. 15, 1878.

The Pathological Anatomy of Scurvy.

Scurvy has happily become so much less common a disease than formerly, that the opportunities for applying modern methods of research to its pathological anatomy are comparatively rare. Such opportunities have, however, been numerous at Cronstadt, and Dr. N. Uskow, the superintendent of the Marine Hospital there, has made good use of the material, and has published some of his results. He concludes that scurvy is a general disease with a series of characteristic anatomical changes which are not located in any one organ, but are disseminated through the whole vascular system. The most constant change is the affection of the gums, and upon this the chief part of the microscopical observations have been made. The affection of the gums begins in the deeper layers, and consists in the development of obstruction in the bloodvessels, and one of the consequences of this obstruction is the stasis of the papillæ, the vessels of which are so often distended that of the proper structures of the papillæ only the epithelium may be visible. The appearances in the deeper layers of the epithelium are, first, more or less swelling of the endothelium of the vessels. The lumen of the vessel is commonly increased, and is plugged, sometimes with red corpuscles, sometimes with white corpuscles, rarely with both. Where the white blood-corpuscles are accumulated, the swelling of the endothelium is greatest; where the red corpuscles are accumulated the endothelium is almost normal, but is often detached from the wall of the vessel, and lies among the red corpuscles. Later on there occurs an extravasation of red blood-corpuscles, which become transformed into brown translucent granular pigment. Rupture of vessels could never be seen. The swelling of the endothelium at the spots at which the white blood-corpuscles are accumulated is often very great, and it is scarcely to be distinguished from the white corpuscles. Proliferation of the endothelium could not be seen, but at a later stage there are dense firm bundles of connective tissue, between which larger or smaller nests of round granulation cells are imbedded. The substance of the connective tissue bundles is not altered, but in the interstices is a light-brown finely granular pigment. The granulation tissue nowhere shows any trace of fatty degeneration. When the disease is intense the papillæ of the gum become gangrenous and break down, and when the destruction extends further the granulation tissue is also affected. The morbid process may involve the deep layers of the periosteum, between which and the bone are found some traces of extravasation and caries. A similar vascular change may be seen, although rarely, in the periosteum of the anterior extremity of the ribs. When the affection is very intense the anterior extremity of the rib bones may be attacked with osteitis rarefaciens, as Slavianski has pointed out, and this may proceed to complete destruction of the compact tissue of the bone, so that the spongy tissue passes without demarcation into the periosteum, and the latter may assume the appearance of marrow. Later the connection of the ribs and their cartilages may be altered and disturbed. The marrow of the ribs, as well as of the other long bones, is red, and, on microscopic examination, is found to consist of red cells and a few fat-cells and pigment. Thus it appears that in scurvy there is a series of acute changes in the vascular system. Whether the changes in the vessels depend on a change in the blood is difficult to say, but it is noticeable that the number of blood-corpuscles is not abnormal (red 3,500,000 to 4,700,000, white 20,000 to 47,000, per cubic millimetre). Inflammatory appearances are often accompanied by fever, for on simple affection of external parts (without pleurisy or pericarditis) the temperature is from 36° to 38° Cent., and the morning remission from 1° to 1½° Cent.—*Lancet*, Aug. 17, 1878.

The Treatment of Diphtheria.

Paris, as our readers are aware, has been, during the last two years, the seat of a formidable epidemic of diphtheria, and the continued prevalence of the disease during the end of last and the commencement of this year has led to the publication of the experience of several physicians regarding its treatment. Their statements have been summarized by Dr. FERRAND in a recent number of *L' Union Médicale*. It is hardly necessary to say that none of the recorded experience is in favour of the notion of a specific remedy, but the characteristic of the therapeutics of the present day, the use of antiseptics, is strongly marked in the recommended practice. Antiseptic applications have here one of the most obvious and simple of their fields, on account of the nature, constancy, and accessibility of the peculiar anatomical feature of the disease. Tannin was employed as a local application by Trousseau, and its use in a somewhat novel fashion has been recommended by Dr. Créquy. He employs inhalations of steam from boiling water in which tannin is suspended. The vapour of the water carries with it a considerable quantity of tannin, although whether enough to exercise an appreciable influence on the exudation is somewhat doubtful. Salicylate of soda has been given internally by M. Cadet de Gassicourt, but without any satisfactory results, and salicylic acid was equally useless in the hands of Dr. Bergeron. Carbolic camphor has been praised by Dr Soulez. This is a solution of twenty-five grammes of powdered camphor dissolved in one gramme of alcohol and nine grammes of carbolic acid. It is employed pure, or mixed with oil of almonds, as a local application to the false membrane, which is said rapidly to separate and disappear, leaving behind it a simple ulceration which quickly heals. No remedy, however, has received so much commendation as an old one—chlorate of potash. It has been strongly recommended in the past by many authorities, especially in Paris by Isambert, and Seeligmuller has lately insisted afresh on its value. He gives it in solution at least every hour, and pins his faith upon it so exclusively as to consider all other treatment necessary only for their "useful moral effect upon the parents." The removal of the fetor, the gradual disappearance of the false membranes, the reparation of ulcerations, and rapid improvement in the general state, are the effects attributed by Seeligmuller to chlorate of potash. This last effect has been ascribed to a fancied power of carrying oxygen to the blood, which contains but little, in consequence of the action on it of the diphtheritic bacteria. Its utility is corroborated by Ferrand, who, however, doubts its influence on the general state of the patients, and ascribes its action rather to its excretion by the salivary and pharyngeal glands. He has observed sometimes that the stomach does not bear it well, and even rejects it constantly. Bucquoy and Blache also recommend it. Cadet de Gassicourt made a comparative trial of chlorate of potash, cubebs, and salicylate of soda, at the Hôpital Ste. Eugénie, and does not hesitate to accord the first place to the chlorate. Cubebs and copaiba have, however, found an advocate in Trideau, who recommends, to reduce the difficulties of administration to a minimum, that they should be masked with sugar and Malaga wine. Tincture of eucalyptus was employed and recommended by Walcker; it was made by diluting ten grammes of alcoholic extract of eucalyptus by thirty-eight grammes of syrup, and was given after an emetic. All these agents thus act chiefly by modifying the affected surface, and their supposed action might be termed a "local alteration." Actual caustics have of late fallen into disrepute, although nitrate of silver is still recommended by Guillon as an application not only to, but around, the false membranes; a method deprecated by Ferrand, on the theoretical ground that the irritated surfaces become the seat of fresh membrane, like a similar surface elsewhere; and he joins Dr. Rose Cormack

in advocating the simplest local application—glycerine of borax or a weak solution of hydrochloric acid, lime-water, or sulphate of soda; and he recommends the alternation of these very inoffensive applications.—*Lancet*, July 20, 1878.

—

Brain-Forcing.

Dr. CLIFFORD ALLBUTT contributes an extremely original and thoughtful paper on mental function, to the first number of *Brain*, the new psychological journal.

If it be true that the aim of good education is to insist upon a mastery of one or more subjects, but, at the same time, to gain an adequate notion of the whole field of the battle of life, then assuredly our author may be congratulated upon having made good use of his time. His complete mastery of one subject—practical medicine, and the versatility displayed in this article, seem to fully indicate that he has lived up to his own standard as regards mental training, and that he is quite in a position to point out to others less gifted than himself certain rules for their intellectual guidance.

Dr. Allbutt commences by subdividing mental function into five "aspects of nervous activity," as they appear to ordinary observers. These are quality, quantity, tension, variety, and control, all of which are explained at length as we proceed.

"By the higher quality of the brain or part of it," writes Dr. Allbutt, "I mean that structure of cell and fibre, which corresponds more widely or more intimately with outer conditions, so that by virtue of such relation the individual more readily apprehends things and conceives them. This is genius in the stricter sense. By quantity, I mean the volume of nerve-force given off by the brain or its parts without regard to quality of work done. By tension, I mean the power in the nerve-action to overcome inner or outer resistance, 'nervous energy,' as it is colloquially called. By variety, I mean the congregation of different centres, and the weaving of mediate strands which give the possessor not higher or wider, but a greater number of relations with outer things. In common life this is usually called versatility. By control, I mean that subordination of one centre to another, whether inherited or acquired, which, if of the lower to the higher, results in the obedience to the more permanent order of the universe. Thus a man may have a lofty, an abundant, an intense, a versatile, and a well-ruled nervous system; or he may have any measure of these states in various proportions."

Numerous examples are then brought forward, of living and dead celebrities, to illustrate these views, the whole culminating in a description of the advantages of self-control.

"Of all endowments," writes Dr. Allbutt, "control is the most precious and its nurture our most bounden duty. For a happy and useful life, perhaps control is more needful than quality, volume, variety, or even tension of the brain. Of all gifts, then, to be cherished and nurtured, perhaps we should place first control, as by it effort is husbanded; perhaps of equal or scarcely of the second place, comes tension; quality of brain cannot be had for the asking, and lack of quantity in individuals may be compensated by numbers. Variety, however charming, however grateful, is the least precious of these conditions of brain, and is the last which calls for nurture."

Certain important points connected with the physical aspect of the question are next alluded to.

"A dyspeptic may well have nerve-force of high quality and high tension, but," says Dr. Allbutt, "I never met with a dyspeptic whose nerve-force welled

continuously forth. Like Brougham and Cavour, men of great power of continuous work have usually been large as well as sound eaters. A 'hard headed' man is also a hard bodied man; and the national history of Europe is a long display of the successive triumphs of the men of colder over the men of warmer regions; of the hardy, lusty, and hungry races over the softer, more indolent, and more abstemious." . . . . . "I am not one of those," continues our author, "who think the love of athletics is as yet in excess. Here and there men may expend in the hunting field or on the river that which should have been given to their tripos, to their profession, or to their country; yet this at worst is but an individual loss, far outweighed by the impulse given to the hardy, hungry vitality, by which the nation thrives, and its general volume of nervous force is augmented."

The evils of prematurely forcing the nerve-powers of the young are next forcibly dealt with. Original compositions from children, competitive examinations when carried to excess, the preaching tasks from students in theological colleges, and the effete creations of young artists and musicians, are all instances of precocity in those who ought to be still acquiring knowledge and adding to their stores, instead of displaying their crude productions to the surfeited glances of a critical public.

The success of mellowed and mature thought is especially observable in musicians. Handel composed his great oratorios after he had passed his fiftieth year. Sebastian Bach wrote the B minor Mass at the age of forty-eight, and the two Passions somewhat later still. Beethoven wrote his grandest works after the age of forty-five; and, in times more modern, Wagner composed *Lohengrin* and the *Ring des Nibelungen* when past sixty years of age. The *Paradise Lost*, the *Divina Commedia*, and the *Tempest*, are also not works of youth, but of age.

Dr. Allbutt concludes by saying, "the true purpose of education is, first of all, to teach discipline. The discipline of the body and the higher discipline of the mind and heart; to encourage the budding faculties to break freely in natural variety; to quicken the eye and the hand, and to touch the lips with fire; to promote the gathering of the fountains of vigorous life by fresh air, simple nutritious diet, and physical exercise; and, finally, to watch for the growth, silent it may be for years, of the higher qualities of character, and even of genius, not forcing them into heated and froward activity, but rather restraining the temptation to early production, and waiting for the mellowness of time; remembering that the human mind is not an artificial structure, but a natural growth; irregular, nay, even inconsistent, as such growths are, wanting most often the symmetry and preciseness of artifice, but having the secret of permanence and adaptability."—*London Medical Record*, Aug. 15, 1878.

—

Cerebral Lesions Occurring in the Course of Acute Articular Rheumatism.

Dr. Ch. LIEGEOIS communicates a paper on cerebral rheumatism to the *Revue Médicale de l'Est*, March 1st, 1878.

Under this term, "cerebral rheumatism," has been included by various writers every morbid cerebral condition which may occur during the course of acute rheumatism. Six clinical forms of this condition are admitted by Trousseau, which at once shows how various are its manifestations. Many and various anatomical lesions have been described as productive of this condition; some, following Trousseau, have recognized in cerebral rheumatism a pure and simple neurosis, while certain cases have been explained as due to embolism and congestion of the nervous centres. Others, as Musgrave and Sauvages, think that acute hydrocephalus accounts for the apoplectic form. M. Jaccoud considers that cerebral embolism

and meningitis account for some of the cases, while others are due to punctiform meningeal hemorrhages or hydrocephalus; while, in a certain number of cases, necropsy reveals no visible lesion.

The author expresses his own opinion that "the cerebral lesions occurring in the course of acute articular rheumatism are, in some cases, the consequence of insufficient action of the heart, caused by parenchymatous degeneration and alteration of the organ, due to pericarditis." He cites, in confirmation of his views, a case of multiarticular rheumatism; on the eighth day of which there was an attack of eclampsia lasting five hours, during which time the temperature was not above 37° Cent. (98.6° Fahr.). The articular rheumatism continued its course and attacked fresh joints. Quantitative analysis of the urine excluded the idea of uræmia. A fortnight after the attack of eclampsia, it was noted that the sounds of the heart were very indistinct, the pulse frequent and often irregular, while his face was cyanotic. The patient died four days after the last note was made.

At the necropsy, there was found dry pericarditis with numerous adhesions, and myocarditis of the left ventricle, characterized by the pale colour of the muscle and its friability. There were no valvular lesions. There were fibrinous clots in the ventriculous cavities, some old, others recent. There was basic broncho-pneumonia in the second stage; and slight pleuritic effusion. The examination of the brain was forbidden.

The author of the paper, setting aside the old idea of "retrocession or metastasis," thinks it more probable that the diminution of pain or its disappearance at the time of the development of cerebral disorders is only the result of a cerebral disturbance, which prevents the perception of pain. In the above case, a subsidence of articular pain occurred two days before the convulsive seizure.

The question is then discussed, what was the nature of the lesion of the nervous centres? As the brain was not examined at the necropsy, it is obvious that no satisfactory answers can be given. Cerebral embolism appeared improbable, as there was no valvular lesion in the heart, and no ulcerative endocarditis was found. The idea of cerebral meningitis is combated on the grounds that the temperature remained at 37° Cent. during the attack, while the prodromal stage of meningitis, as characterized by cephalalgia, vomiting, and agitation, was absent. The probability of meningeal ecchymosis is improved. The idea of simple delirium appears to Dr. Liegeois unworthy of discussion, and he reverts to the previously expressed opinion as to the cause of the cerebral symptoms. The subject is to be continued hereafter.—*Lond. Med. Record*, Aug. 15, 1878.

—

Opiates in Cerebral Anæmia and Diseases of the Heart.

Dr. HUCHARD (*La France Méd.* 1878, p. 164, from *Journ. de Thérap.*) speaks of the good results obtained by the administration of opium to persons suffering from insufficiency or narrowing of the aortic valves. He gives numerous instances in which the happy effect of this remedy has been manifested. In the course of certain affections of the heart, where the attacks of suffocation and of dyspnœa have acquired an extreme intensity, injections of morphia are of great service.

Opium, given in the dose of one to two centigrammes (gr. $\frac{1}{8}$–$\frac{1}{4}$), produces slight excitement of the circulation, animation of mind, and increase of muscular force; if the dose be pushed to five or ten centigrammes, depression of the circulation, with a tendency to sleep, is brought about. M. Gubler, in his *Commentaires*, urges the utility of opium in want of stimulation of the nervous centres, through an impoverished or altered blood; and Dr. Vibert suggested, a year or so ago, that injections of morphia should be practised previously to the operation

of thoracentesis, and even in every operation where there might be danger of syncope, with a view to prevent its occurrence. It is for the same reason that Dr. Huchard has employed this drug. In cases of narrowing or insufficiency of the aortic orifice, where patients present the symptoms of asystole, with suffocation, dyspnœa, cold sweats, paleness of the face, algor of the extremities, etc., he has seen all these symptoms diminish after the hypodermic injection of one centigramme (⅛ gr.) of morphia. M. Huchard says that if opium is useful in aortic affections accompanied by vertigo, tinnitus aurium, tendency to deafness, cephalalgia, and occasional dilatation of the pupil, it is because it overcomes the cerebral ischæmia. For this reason, opium may be used as a tonic in many anæmic conditions, as phthisis.—*London Med. Record*, Aug. 15, 1878.

—

Four Cases of Spinal Paralysis of Adults.

Dr. SALOMON, of Hamburg (*Berliner Klin. Wochenschrift*, 1877, No. 39), does not believe that spinal paralysis is as rare among adults as has been supposed. He has himself, within two years, met with four cases of the affection, and believes that many of the cases recorded in the literature of spinal diseases as "chronic myelitis," or under some even less precise terms, really belong to this category. Three of the four cases observed by himself developed acutely. They were characterized by more or less complete paralysis of motion, with moderate atrophy, but without pain or other disturbances of sensation. There was, moreover, no impairment of the functions of the bladder or rectum; no fever; no disturbance of the general health; no change in the reflex irritability. The state of the electro-contractility of the muscles was, however, very striking; the reaction of the muscles to direct irritation, or to irritation of the nerves supplying them, by the faradic current, was in general considerably diminished, while the reaction to the galvanic current was normal or even increased. In one of the cases, that of a young soldier, the affection came on after a night of sentinel-duty in the depth of winter, when the ground was deeply covered with snow; in another, that of a young lady, it appeared after a night of dancing at a ball. Two of the patients had suffered from sciatica of the affected leg one and a half years before the paralytic affection set in. In the case of the soldier, both legs were affected; in the two other cases the arm and leg of one side. All three cases recovered completely after the lapse of a few months. The treatment consisted of galvanism, supplemented in one of the cases by sea-air and sea-baths, and in another by iodide of potassium and a course of baths at Rehme.

The fourth case differed in some important particulars from the other three. It was not acute, but, on the contrary, developed so slowly, that the diagnosis was for a time doubtful. It commenced with a weakness in the left ankle, which slowly but progressively increased, and after the lapse of three months a slight dragging of the leg in walking was noticeable. The atrophy affected the entire leg, but was most marked in the adductors of the thigh; the loss of power affected these adductors and the peronei to a more marked degree than the other muscles. There seemed to be a certain amount of cutaneous hyperæsthesia on both sides. In all other respects the case resembled the foregoing. After eight weeks of treatment the atrophy had slightly diminished, and the faradic reaction of the muscles had improved considerably, the galvanic reaction remaining unaltered; subjectively the patient noticed an improvement in the strength of the limb. About this time he was awakened over night by a peculiar, painful sensation in the left arm; and in the morning found that he could no longer move the arm as well as usual. This weakness progressively increased, and was soon attended by atrophy and the usual electrical symptoms. At the same time the leg symptoms

ceased to improve, remained stationary for a time, and then became gradually worse. A peculiar and rare phenomenon, which has only been mentioned by Benedikt, was noticed soon afterwards in the muscles of the calf and the other side of the leg-muscles in which the diminution of the faradic reaction was very marked. These muscles contracted energetically when a strong induced current was passed through them, but, although the current was kept up at the same strength, a sudden and apparently complete relaxation soon set in; on breaking the current, however, a further relaxation took place, which proved that a slight remnant of contraction had still persisted. Benedikt only met with this phenomenon in connection with tumours of the brain and other cerebral affections, but the author has also met with it in connection with nervous diseases of unquestionably peripheral origin. In the case under consideration the condition gradually became worse; the atrophy and paralysis of the left side increased, and finally disturbances of speech set in, symptoms which indicate an advance of the morbid process upwards, and make the prognosis unfavourable.

Dr. Salomon believes that the similarity of the symptoms in the above and other recorded cases, with those of the spinal paralysis of children, makes it necessary to admit the existence of the same anatomical substratum for the two forms of spinal disease. It is an admitted fact that the lesions are to be sought in the anterior horns of the gray matter, but the autopsies of children have proven that they may vary greatly in nature, since sometimes the signs of atrophy, and sometimes those of inflammation predominate. He claims that similar differences may also exist in the case of adults. With respect to his own four cases, the entire absence of all inflammatory symptoms leads him to the conclusion that the primary process was one of atrophy.—*Med. Record*, Aug. 17, 1878.

—

Sarcomatous Tumour in the Spinal Canal.

Dr. HUNICKEN, of Brunswick (*Berliner Klin. Wochenschrift*, July), reports a case of this nature. A young lady, A. G., at the age of nine years, began to suffer from a small hard swelling over the left mastoid process, which after three years' slow growth was finally removed by a surgeon. It returned after one year, and grew much larger, covering the mastoid process and the infra-auricular fossa to the size of half a goose's egg, and remained stationary at these limits; it caused at times a good deal of pain, and bled from granulations which had formed at the most prominent part of the tumour; the hemorrhage had latterly become frequent, and conduced to aggravate the somewhat feeble condition of the patient, so that there was again question of some operative interference, which was negatived by the fear of a second recurrence, and by the seat of the growth, which had penetrated into the substance of the mastoid process. The patient bore her sufferings with great patience, and lent herself to the various modes of treatment suggested with great energy; but after having unsuccessfully tried a great deal of both scientific and unscientific aid, she finally contented herself with dressing the tumour twice a day with an indifferent plaster. In July, 1876, she went to Harzburg, to try the brine baths, and made daily excursions among the mountains without feeling any fatigue. In the beginning of August she climbed the Berg mountain, and on her way down she felt a severe pain in her back, which compelled her to rest for some time, and it gave her father, who accompanied her, much trouble and exertion to get her home. The pain disappeared after a day's rest, but returned after attempting to walk; the patient, in consequence, returned home. Dr. Hünicken saw her first on the 2d of September. Miss G. was then twenty-four years old, with a pale face, slenderly built, and badly nourished. She complained chiefly of feebleness in the lower extremities, great pain in the back,

which passed down the thighs, and obstinate constipation. Supported by some one's arm, she was still able to move about her room; but the pains in the back, which were compared to cramps, were so severe at night that the patient shrieked for hours, and sleep was regularly disturbed, unless narcotics or a morphia injection were used. By the end of October the feebleness in the lower extremities amounted to paraplegia, and the sphincters, first of the bladder, then of the rectum, lost their power; at the same time the sensibility of the lower extremities suffered, but never reached absolute anæsthesia; reflex excitability was notably diminished. The induced current employed for a long time remained without any effect; the electro-contractility of the muscles of the lower extremities was unimpaired, but the electro-sensibility was lost. Repeated examinations of the thorax, abdomen, and genital organs showed complete integrity of these parts. Although at the commencement of the disease the high degree of sensitiveness of the patient, and the indefinite character of the affection, caused hysterical paralysis to be thought of, the subsequent rapid increase in the symptoms, as well as the absence of any other facts which could be brought into causal relation with the present condition, led the author to believe that there existed some lesion, involving the totality of the spinal cord, which more or less deprived the nerves of the lower extremities of their functions. As myelitis might be excluded by the absence of all feverish symptoms, and the exclusive limitation of the paralysis to the lower extremities, the pressure of a tumour in the spinal canal was thought of, and its seat seemed most probably about the level of the last dorsal vertebra; the entire course of the case, at least in the last three or four months, had no resemblance whatever to fracture of a vertebra, which causes death in about a month. To the above symptoms, which were relieved by Dover's powder, or morphia injections, at the end of November was added a bedsore, which, beginning first in the left labium, and later at different parts of the nates, gave rise to large sloughs, five to fifteen centimetres in diameter; and it was only by keeping the patient in a warm bath for hours daily, that her existence could be made tolerable. The excessive suppuration which followed these numerous bedsores, as well as the loss of blood from the same cause, led to great exhaustion, and at length, on the 17th of March, the unhappy patient was relieved from her sufferings, seven months after the commencement of her symptoms.

The necropsy, which was restricted to opening the spinal canal and extirpating the tumour of the neck, gave the following results. On opening the spinal canal at the upper end, no microscopic change was noted until the tenth dorsal vertebra was reached; here the canal widened out to the size of a hen's egg, and contained a tumour of that size, which had encroached on the substance of the bodies of the tenth and eleventh dorsal vertebræ, which only retained their lateral portions; the middle had disappeared right up to the *fascia longitudinalis*, and the finger could be passed through this thinned fascia right into the abdominal cavity. The cord was compressed flat between the tumour and the posterior wall of the canal; the membranes were unaltered, and the cord itself, except for the flattening, showed no change to the naked eye, except some slight softness. In the deeper-lying parts of the vertebral canal there was no pathological change, and the cord had resumed its normal appearance. The tumour was easily loosened from its surrounding, slightly adhered to the dura mater by a delicate membrane, and possessed in the centre a pap-like, in the periphery a more consistent, substance, which under the microscope proved to be a cell-sarcoma (*zellensarcom*). The tumour in the neck was of harder consistence, was also a cell-sarcoma, and penetrated the mastoid process as far as the mastoid foramen. After fifteen years, the sarcoma of the neck had given rise to a secondary deposit in the tenth dorsal vertebra, and seven months after the appearance of the symptoms caused death.

As an etiological point, it remains to be said that the mother of this patient had suffered for many years from tuberculosis, and she died of this disease a month before her daughter.—*London Med. Record*, Aug. 15, 1878.

—

The Histology of Syphilitic Tonsils.

The microscopic anatomy of the syphilitic tubercular patches which are often seen upon the tonsils was the subject of a recent communication to the Paris Academy of Medicine by M. CORNIL. The tubercles had been removed from the tonsils of patients, for the purpose of examination, without difficulty, and the wounds thus produced had healed as readily as in an individual free from syphilis. He described, first, the structure of the "opaline mucous tubercle," a section of which, examined under a low magnifying power, shows thickened epithelium, and hypertrophy of the papillæ, while the deeper connective tissue is thickened by infiltration with new cells. The superficial epithelial layer presents cells which possess a cavity around their nucleus. Often there are one or two globules of pus in the cavity instead of a nucleus. Further, within this superficial layer of epithelium, nests filled with globules of pus may be found—true abscesses excavated among the epithelial cells, and containing from four or ten to a hundred globules of pus. These little abscesses, rounded or lenticular in shape, are surrounded by cells flattened by compression, and are commonly situated on the surface of the tubercle, where they open from time to time. Thus, from the surface, a liquid transudes, containing many epithelial cells, with globules of pus among them, or collected in little abscesses between them, and the current of liquid which passes from the papillæ on the surface of the tubercle contains globules of pus. This is the cause of the opacity of the epithelial covering at the summit of the tubercle which gives it the opaline aspect.

The second variety examined was the ulcerated form. In this the epithelial covering is disintegrated by the large quantity of transuding liquid, and the globules of pus which come from the papillæ. The epithelial layer may fall off entirely, and then the inflamed papillary layer constitutes the base of the ulcer. Sometimes there is a true false membrane, gray, adherent, and diphtheritic in character, over this ulceration. It does not contain, however, as in diphtheria, microscopic organisms, but the branching forms of the epithelial cells, the holes or cavities which they present, and which contain globules of pus, produce the same appearance as in diphtheria. In all cases, whether the tubercles are opaline or ulcerated, the closed follicles of the tonsils are inflamed, and the entire organ is hypertrophied. The peri-follicular lymphatic sinuses and the retiform tissue present a variable quantity of large cells, with one or several nuclei, containing red-blood globules. This lesion of the tonsils is identical with that which M. Cornil has lately described as found in the glands in the first and second periods of syphilis; so that he believes it to be correct to say that the syphilitic tonsils of the second period represent a papule upon a syphilitic gland.—*Lancet*, August 24, 1878.

—

Stenosis after Tracheotomy.

In a contribution to the *Deutsche Zeitschrift für Chirurgie*, Band ix, Hefte 5 and 6, Dr. VÖLKER of Brunswick discusses the causation and pathology of stenosis of the larynx or trachea after operation. Dr. W. Koch was one of the first to direct attention to the serious results that occasionally follow the removal of the canula from the air-tube of a child who has undergone tracheotomy for the treatment of croup or diphtheria. Immediately after the removal of the tube, or, in some much less frequent cases, after closing and cicatrization of the wound,

the patient suffers from dyspnœa, which increases rapidly in intensity, and necessitates a speedy reinsertion of the instrument. The attack of dyspnœa is repeated whenever the canula is removed, so that the patient is compelled to bear this during the rest of life. This condition of dyspnœa, after removal of the canula, is attributed by Koch to obstruction of the air-tube through outgrowths or granulation-tissue from the tracheal mucous membrane. According to the more recent investigations of Pauli, this stenosis from overgrowth of granulations is the result of prolonged retention of the canula. The mass of swollen granulations springs from the margin of the superior portion of the wound, and just at that part where no pressure is excited by a curved canula of the usual form. This statement as to the starting-point of the obstructing fold of granulation is confirmed by an observation that was made by Dr. Völker in 1876. In a *post-mortem* examination of a child who, three months before death, had been tracheotomized for croup, and been subsequently compelled to retain the canula, in consequence of obstruction of the air-passage above the fistula, Dr. Völker found that the trachea just above the fistula was closed by a mass of granulations, which seemed to be directly continuous with the upper half of the margin of the orifice in the air-tube. The posterior margin of the mass of granulations was in contact with the posterior wall of the trachea, but the handle of a scalpel could be readily passed between them. This mass then formed a kind of valve, fixed anteriorly and laterally to the wall of the trachea, just above the wound, and free behind, where it presented a sharp and indented margin. Such a condition as this, on removal of the canula and closing of the wound during life, would have rendered inspiration very difficult and expiration impossible. Dr. Völker holds that the use of the ordinary curved canula favours the formation of this valve of granulation-tissue, because such instrument leaves quite free from any pressure the upper and inner angle of the wound made in the operation of tracheotomy. At this part, the granulations expand without any resistance, and as they grow and expand inwards, they are supported by the convexity of the canula. In order to prevent this outgrowth of granulation-tissue, care should be taken to remove the canula, when this is of the usual form, as soon as possible after the operation, or an attempt be made to procure an instrument which will press equally on all parts of the periphery of the wound. The valve, when formed, should be removed through excision, tension, or cauterization.

Dr. Völker points out that granulation-masses may arise from other causes, and spring from other parts of the laryngeal or bronchial mucous membrane than that bordering the upper part of a wound or fistula. A growth of this kind is occasionally developed when the extremity of the canula touches the posterior wall of the air-tube. Here, after prolonged contact of the hard instrument with the mucous membrane, an ulcer is formed, from which a mass of granulations may grow, passing either directly downwards or upwards between the convexity of the canula and the posterior wall of the trachea. Should such a mass, growing in the latter direction, chance to meet with a similar mass springing from the margin of the wound, on the anterior wall of the air-tube, a complete diaphragm might be formed.—*London Med. Record*, Aug. 15, 1878.

—

Contagious Pneumonia.

Epidemics of pneumonia have been described from time to time, chiefly on the Continent, and an account of recent outbreaks, having almost an epidemic form, which occurred at Moringen in Hanover, has been given by Dr. KUHN. In this place he has more than once observed pneumonia to have an ep demic character, and on one occasion it broke out in the gaol, when overfilled. All other condi-

tions being favourable—position, soil, drainage, ventilation, drinking water, clothing, and food—the cause of the outbreak appeared to be the impurity of the air of the cells. The individual cases presented the aspect of a well-marked infectious disease, with much prostration, a considerable enlargement of the spleen, albuminuria, and, in two-thirds of the cases, diarrhœa. It is notable that the disease did not begin, as in ordinary acute pneumonia, with a sudden onset and rigor, but was ushered in by four or eight days of prodromal symptoms. The pyrexia came on usually without an initial rigor, and ran a severe course. The pneumonic consolidation was recognizable usually on the third or fourth day of the fever, was frequently seated in the upper lobes, and exhibited a marked tendency to migrate. Often it was accompanied by inflammation of the serous membranes, pleurisy was almost constant, in one-fourth of the cases there was pericarditis, and of forty-five cases well-marked meningitis was present in five. Angina and stomatitis were not unfrequent accompaniments. The temperature sometimes attained a height of 107°, and began to remit on the fifth to the seventh day. *Post-mortem* examination showed fatty degeneration of the heart, acute swelling of the spleen to three times the normal size, and a parenchymatous nephritis. Frequently the intestinal follicles were swollen. The disease was distinctly infectious. The attendants of the institution were affected, and the disease was conveyed by visitors to other persons who did not come near the prison or its inmates. In one epidemic Kühn observed eighty-three, and in another seventy cases. In each epidemic abortive attacks of the disease were also observed. He urges that this form of pneumonia must be distinguished from the genuine croupous pneumonia, and that its character approximates it to typhoid disease; and he suggests that possibly it may be due to the same poison as typhoid, modified by some unknown conditions—a sport, as Dr. Roberts would put it, of the typhoid germ.—*Lancet*, Aug. 24, 1878.

—

Hepatico-Bronchial Fistula.

A case of this very rare affection is reported by Mr. W. E. GREEN in the *Lancet* of July 6, 1878, p. 5. So far as Mr. Green knows, only two similar cases are to be found in medical records, one being mentioned by Dr. Murchison in his work upon *Diseases of the Liver;* and another described by M. Laboulbène (see *Lancet*, vol. ii. 1875, p. 504). The latter was analogous to Mr. Green's case. In Dr. Murchison's case, however, the fistula extended only to the pleura, and was not discovered until after death.

The patient, an innkeeper, aged 63, a well-nourished, active woman, had suffered for many years from attacks of biliary colic. On May 16th, 1875, she was attacked with general malaise, followed by severe pain behind the right shoulder, slight cough, expectoration containing small clots of blood. Auscultation revealed nothing to account for this. Pulse 76; temperature normal.

May 20th. She coughed up some green, bitter fluid; she felt better.

21st. The patient was bringing up large mouthfuls of frothy bile, and this had been going on for hours. Pulse 108; temperature normal. The base of the right lung was dull on percussion, and large bubbling *râles* were heard, as though passing upwards from the liver, on each inspiration. The bowels were open, with bile in the fæces. The patient continued expectorating large quantities of bile (often more than 80 ounces in the 24 hours) until June 10th, when she vomited about a pint of most offensive pus, and felt better. Pus mingled with bile was expectorated in greater or less quantities until the 26th, during which period the general health had improved, appetite fair, motions natural.

On July 12th, she again, after very troublesome attacks of coughing, brought

up a large quantity of pus; after this the patient improved, the cough and expectoration gradually ceased, and in the second week of August she left home for a change, returning, after three weeks' absence, quite well.—*London Med. Record*, Aug. 15, 1878.

—

Use of Digitalis in Disease of the Cardiac Valves.

Dr. F. A. HOFFMANN of Dorpat says (*St. Petersburger Med. Wochenscrift*, No. 2, 1878) that, while the diagnosis of a disease of the heart is generally easy, it is often difficult to recognize the stage of the disease and to judge of the functional power of the heart. The indications of congestion are not to be depended on; patients with cyanosis, enlargement of the liver, ascites, and anasarca, are often improved by a short course of treatment and feel quite well for some months; while others, following just the same symptoms, are treated the same way in vain, and soon die. Just as little are the arterial tension and the heart's impulse to be depended on; both may be sufficient even until death. Even the distinctness of the heart's sound—apart from the prognostically favourable strengthening of the second pulmonary sound and the cessation of the mitral murmur shortly before death—gives no aid.

Irregularity of the heart's action just becomes a certain sign when the regularity of the heart-stroke can no longer be restored by digitalis. In order to ascertain this, it is necessary to possess a preparation of digitalis of which the action has been thoroughly proved, and to administer a dose of it subcutaneously. In this way, we obtain within twelve hours that information which the internal administration of the drug, or of infusion of digitalis, does not furnish for several days, and often not at all.

This experiment need not be made in cases where the right heart is enlarged towards the left beyond the nipple-line; for in this stage there is a condition of passive dilatation, in which digitalis can no longer do good.—*London Med. Record*, Aug. 15, 1878.

—

Action of Morphia on the Heart.

MM. P. PICARD and REBATEL, at the Meeting of the Paris Société de Biologie, on May 4th, called attention to the action of the salts of morphia on the heart (*Gazette Médicale de Paris*). M. Picard has already pointed out some of the phenomena following the injection of chlorhydrate of morphia in the dog, especially the contraction of the pupil and dilation of the small vessels. He infers that the salts of morphia produce both phenomena by paralyzing the sympathetic nerve. He now publishes the sequel of his researches, having further to note the coincident fall of the mean blood-pressure and retardation of the action of the heart. These facts are easily verified by placing a manometer in connection with an artery, and noting the blood-pressure and rate of the heart's beats before and after the injection of morphia. It must be observed that the retardation of the heart's action occurs in spite of reduced blood-pressure; if the fall of pressure occurred alone, a peripheral action of the vessels would explain it, but then there would be at the same time accelerated action of the heart so that only a direct agency affecting the heart can explain this phenomenon. The cause, then, must be stimulation of the inhibitory or paralysis of the motor nerves (leaving aside as inadmissible the action of morphia on the cardiac fibres). The question thus put is easily solved by the following experiment. Cut the pneumogastric nerves in a dog, and after a few minutes count the beats of the heart; then inject morphia; and it will be found that diminution of the action of the heart is still produced, notwithstanding the section of the inhibitory nerves. This

experiment throws over the first and prepares us to admit the second hypothesis, namely, that morphia paralyses the motor nerves of the heart, as it does the sympathetic nerves of the vessels and of the iris.—*London Med. Record*, Aug. 15, 1878.

—

Auscultatory Phenomena of the Arteries.

Dr. SENATOR (*Berliner Klinische Wochenschrift*, May 27) draws special attention to the pathological conditions under which the heart's sounds may be heard in the peripheral arteries. These are insufficiency of the aortic valves, with dilated and hypertrophied left ventricle; pure insufficiency of the mitral valve; perhaps pure patency of the ductus Botalli. Then cases in which the arterial system is relaxed, but the heart's muscle acts strongly (anæmia, chlorosis, fever, stenosis of the aortic or mitral valves, with hypertrophy of the left heart). After these come cases of great obstruction at the origin of the aorta, general increased tension of the middle-sized arteries, or congenital narrowing of the arteries, if the left ventricle at the same time is degenerated and little capable of performing its function. The pathogenetic condition he considers to be such a state of the arterial wall as shall enable it to be set in vibration. He recommends the solid stethoscope as making the sounds more audible in some cases.—*London Med. Record*, Aug. 15, 1878.

—

The Origin of Miliary Aneurisms.

The researches of Bouchard and others on the occurrence of miliary aneurisms in a large number of cases of cerebral hemorrhage have been amply confirmed. The cases in which the condition has not been discovered have been, for the most part, cases in which the hemorrhage was secondary to chronic renal disease. An interesting study of the pathogenesis of the condition, by Dr. EICHLER, of Kiel, appears in the last number of the *Deutsches Archiv für Klinische Medicin*, and is based on an examination of three or four hundred specimens. He has studied especially the early stages of the process. The first alteration is a multiplication and fatty degeneration of the endothelium of the vessel, and a notable thickening of the homogeneous layer of the intima which limits the endothelium of the outer side. All portions of the vascular wall take part in the commencing dilatation. The external coat is quite unchanged, and is separated from the muscular coat by a lymph-space which Eichler, following Axel Key and Retzius, believes to exist in that situation. All authors, with the exception of Roth, have described the muscular coat as early disappearing and becoming atrophied, and consider that the atrophy of this coat really conditions the aneurism. Eichler, however, not only found it well preserved in young aneurisms, but even in older ones its traces could be distinctly observed. The muscular tissue is, however, slightly changed, even in the earliest stages. The individual fibres do not, it is well known, form complete rings around the vessel, but extend through only part of the circumference and interdigitate to some extent. This arrangement is disturbed in the commencing aneurism. No fatty degeneration could be discovered in the fibres. The thickening of the intima is so considerable that it forms a prominence within the vessel, sometimes homogeneous, sometimes laminated. On the inner surface it is covered with the thickened endothelium, and often by a layer of white blood-corpuscles, frequently degenerated. Sometimes the endothelium appears to degenerate and peel off into the lumen of the vessel. The outer and middle coats of the vessel are always normal in the young aneurisms, and hence it appears that these are due to the change in the inner coat. This is confirmed by the fact that where this change is partial, and affects only one part

of the wall, that part only becomes bulged into the aneurism; whereas, when the change surrounds the vessel, the dilatation has a corresponding extent, and a fusiform aneurism results, and if the change is more marked on one side of the vessel than the other, the bulging is greater on that side.

The second stage of the aneurism is characterized by an enormous overgrowth of the intima, a gradual atrophy of the muscular coat, and a process of growth between this and the outer coat. The thickened intima presents lamination, and between the lamellæ are indications of groups of degenerated cells. Finally, a yellow homogeneous plate is produced, on which the endothelial covering can no longer be seen. The thickening of the intima is often inconspicuous, in consequence of the great dilatation and stretching of the wall which coincides with it, but sometimes it may be so great as to actually narrow the lumen of the vessel at part of the diseased spot, the other part being bulged. The atrophy of the muscular coat appears to depend upon the bulging of the vessel, but it is rarely so complete that traces of the muscular fibres cannot be seen towards the extremities of the aneurism. The external presents the least change. Only where a vessel enters the aneurism is there obvious thickening of the outer layer, which Eichler believes to be due to the accumulation of lymph-cells in the lymphatic space which he and Axel Key consider to exist between the external and middle coats of the vessel. The thickened intima may undergo calcification, or, more frequently, fatty degeneration.

This description is, it will be seen, in effect, that of chronic endarteritis, and it follows from these observations that the aneurisms result from the common senile change. They are true aneurisms, involving the whole of the walls of the vessel, and have to be carefully distinguished from the so-called dissecting aneurisms of the same vessels, which are consequences, not causes, of cerebral hemorrhage.—*Lancet*, Aug. 17, 1878.

A Remarkable Case of Sphacelation of the Stomach.

Dr. DUJARDIN-BEAUMETZ lately presented the notes of this case to the Medical Society of Paris (*L'Union Médicale*, February 23). The patient, aged forty-seven, entered his wards on October 19. Five days before, whilst in excellent health, and without appreciable cause, he had had an hæmatemesis, accompanied by acute pains in the stomach. Examination revealed no epigastric tumour. He bore milk-diet very well, and without vomiting. The patient spoke of a stomatitis from which he was then suffering, but said that every year about that time he was troubled with aphthous sore mouth. Dr. Dujardin-Beaumetz did not believe that this affection was similar to his previous attacks, and did not know to what the ulcerations of the lips, the under surface of the tongue, the uvula, and even the borders of the epiglottis were to be ascribed.

On October 28th, the patient, who up to that time was progressing well, hardly complaining of any pain, never having vomited, and demanding solid nourishment, died suddenly, after having experienced an acute pain in the stomach, and ejected a few spoonfuls of blood.

At the necropsy, Dr. Dujardin-Beaumetz found almost the entire stomach, the pyloric region excepted, sphacelated through all its thickness, and transformed into a soft eschar, which occupied not only the stomach, but also the diaphragm and omentum. On removing this mass, the lungs, liver, spleen, and intestines were exposed to view. In presence of such destruction, the idea of simple ulcer had to be put aside, and the entrance into the stomach of a caustic liquid had to be admitted. This *post-mortem* diagnosis explained perfectly the peculiar sore mouth. After closely questioning his wife, it was discovered that he had been very despondent from want of work, and that he feared poverty for his wife and

children. On the 14th he had gone to the water-closet, and on coming out he fell almost inanimate to the ground, crying in haste for water to quench the burning in his stomach. Thus this patient concealed from every one his attempt at suicide, and was able during fourteen days to preserve the appearance of health and the integrity of his digestive functions, while the greater portion of the walls of the stomach was destroyed, and succumbed only on the separation of the slough.—*London Med. Record*, Aug. 15, 1878.

—

Case of Intussusception in an Infant; Recovery.

In a communication to the *Berliner Klinische Wochenschrift* for July 1st, M. LUDEWIG, of Heidelberg, observes that cases of intestinal obstruction may be divided, with reference to the treatment, into two classes: 1. Those requiring direct operative interference; 2. Those in which an expectant treatment of the symptoms only is indicated.

The first group comprises those cases where the obstruction is situated at or below the ileo-cæcal valve, while those occurring above this situation cannot as yet be treated by mechanical means. These mechanical means consist of the introduction of the sound, fingers, or hand, and of the injection of either air or water; and they are only applicable so long as there is only moderate swelling of the invaginated portion of intestine, and before any serous adhesions have formed. Should either or both of these conditions exist, then either an operation (laparotomy) is indicated, or a merely expectant course is to be pursued. Laparotomy, or the opening of the abdomen, cannot well be performed in infants whose powers of resistance are but very slender; hence an energetic employment of the mechanical means becomes imperative, and it is only when these all fail, that as a last resource laparotomy may be resorted to. Fortunately, iliac invagination is of extremely rare occurrence in infants.

The patient in the present case was a healthy well-nourished female infant, eight months old. On the 12th December last she was suddenly, and without any apparent cause, seized with violent vomiting of greenish-yellow matter, while a scanty stool passed some little time afterwards was streaked with blood. Vomiting of all ingesta continued till the 15th, when a digital examination *per rectum* detected the existence in the upper part of the rectum of a soft rounded swelling, obstructing the entire gut, and having a small slit-like fissure at its posterior part, which was neither more nor less than the invaginated portion of the gut. Reposition was effected by means of the finger without difficulty, with the immediate result that the child was able to take and retain a considerable quantity of milk. On the same evening, vomiting again set in; and the rectal tumour was found to have returned, and was again reduced. This was repeated four times in the course of the next three days. On the 18th the invaginated gut presented a dark-coloured protuberance as large as a walnut, external to the anus, by the side of which a bougie could be passed about three inches up the bowel. The reduction could now no longer be effected with the finger, and it became necessary to inject about half a pint of water through the transverse fissure by means of an elastic tube. The tumour was then again returned; vomiting ceased, and a yellowish motion was passed. But notwithstanding the repeated injection of water and the administration of small doses of opium, the bowel continually descended. A tube was therefore introduced and fixed by means of bandages and left in the bowel for six days, but even then on removing the tube the tumour again came down, and the tube had to be replaced for fourteen days more. After that, the cure seemed to be complete. During the whole progress of the case the temperature remained normal, never exceeding 38° Cent. (100.4° F.), and the child's

appetite continued good. The seat of the invagination appears to have been the descending colon, and it came down and was replaced twenty-two times in the course of a single month. The case establishes the value of water injections, and also of leaving the injection-tube in the bowel for a considerable time after passing it beyond the seat of the obstruction.—*London Medical Record*, Aug. 15, 1878.

—

A Case of Hydatid Tumour of the Liver bursting into the Air-passages; Recovery.

In the *Berliner Klinische Wochenschrift* for June 24, Dr. KATZ, of Berlin, relates the following case.

The patient, a school-teacher, had suffered for the last five or six years from disordered digestion, with occasional attacks of jaundice. When he came under observation, a fluctuating tumour as large as a child's head was found in the epigastric region. Further examination, and the history of the case, pointed to its hydatid nature, and it was opened, when about five litres of an intensely fetid yellowish fluid were evacuated, containing hundreds of echinococci, varying in size from a cherry to a fowl's egg. Immediately after this, and during the following six weeks, the patient's health improved; but then jaundice and fever returned, and, eight weeks after the operation, there was found a swelling on the right side of the thorax at its lower portion. At the same time, there was great emaciation, with frequent rigors, and the general symptoms of pyæmia; but the patient refused to undergo another operation. Suddenly one day, and after a violent fit of coughing, about two litres of a greenish offensive pus were expectorated, and, during the following days, about the same quantity was coughed up from time to time. The microscope showed this fluid to contain the characteristic echinococcus-hooklets in large numbers. The patient's condition again immediately improved, and in three weeks recovery was complete. The second tumour, which was situated in the posterior part of the right hepatic lobe, probably became adherent to the diaphragmatic pleura, and pushed up against and displaced the right lung, where, owing to the concussion of coughing, it burst into the bronchi.—*London Med. Record*, Aug. 15, 1878.

—

Hydatid Cyst of the Liver in a Child.

L'Union Médicale for July 20th contains an account of a child three and a half years of age, who was admitted into the Sick Children's Hospital, under M. ARCHAMBAULT, February 5th. It had for a year suffered from a large belly; this enlargement had been gradual, and was not accompanied by diarrhœa, vomiting, or jaundice. There was no dog in the house where the patient lived. On examining the abdomen, a projection was at once noticed on its right side; palpation revealed the existence of a tumour springing from the liver, and the edge of this organ could be plainly felt to be sharp, raised, and prominent in front. It was easy to recognize that the increase in the volume of the liver was not due to hypertrophy of the organ, but to the presence of a true tumour, round, smooth, and painless, equal in volume to the head of a fœtus, appearing to originate in the right lobe of the liver; there was no discoloration of the skin covering the growth. The tumour was hard, but neither fluctuation nor fremitus could be made out, but at its most projecting part a semi-elastic feel suggested the idea of a liquid collection. The child was healthy and plump, without any trace of scrofula or of osseous suppuration; there was no digestive disturbance, no œdema of the limbs, no ascites.

On February 8th, chloroform having been administered, M. Archambault

punctured the swelling with an aspirating needle, and withdrew 450 grammes (nearly a pint) of a fluid as clear as rock-water. An examination showed this to be non-albuminous, and the microscope did not reveal any hooks. The child progressed favourably until the 11th, when the temperature rose, and slight pain was complained of near the umbilicus, but the belly was not very sensitive to the touch; the liver still remained large, but no tumour could be felt. The symptoms improved until the 20th of the month, when diphtheria made its appearance, accompanied by albuminuria, and suppuration in the right submaxillary region. On March 10th the mother removed the child from the hospital; at that time it was pale, and very feeble, but the albumen had disappeared. The hepatic tumour had not been reproduced. Five days afterwards death took place, this being preceded by an attack of diphtheritic paralysis. M. Peter, who reports the case, states that the age of the patient is an object of especial interest, as many writers upon diseases of children do not mention this malady. West, D'Espine, and Picot are exceptions; the last two having published some cases of hepatic cysts in children four years of age. Below this age the affection is not mentioned, except the case quoted by Cruveilhier as occurring in an infant twelve days old, where the hydatid cyst opened into the intestine. It is generally about eight that the disease occurs most frequently. The youngest patient observed by Frerichs was seven. Besides the age, there are three other noteworthy circumstances: 1. The absence of hydatid fremitus; 2. The absence of hooks, so that the parasitic nature of the affection was only made possible by the volume of the cyst; 3. The cure by a single puncture. These circumstances can be explained by the absence of secondary vesicles, or at least their presence in a very small degree, for it is known from the experience of Dr. Sadde that the fremitus denotes the presence of a certain number of daughter cysts. If the fremitus be absent, one ought to find few or no hooks.—*London Med. Record*, Aug. 15, 1878.

Amyloid Degeneration of the Kidneys.

Dr. M. LITTEN makes the following remarks on this subject. Of all the affections comprehended under the name of Bright's disease, none is so variable as amyloid degeneration, both as regards the quantity and clinical composition of the urine, or the presence and extent of dropsy; but albuminuria has been generally regarded as a constant symptom. There is much difference of opinion as to the mode of production of this albuminuria, some holding that it is due to the increased pressure in the collateral glomeruli from the amyloid degeneration of some, others that the amyloid degeneration itself permits the serum albumen to permeate the vascular walls; others again attribute it to the coincident degeneration, the so-called chronic parenchymatous inflammation, of the renal epithelium. But, in spite of these variations, all are agreed in regarding albuminuria as a constant symptom of amyloid degeneration of the kidneys, a dogma which the following case shows us to be untenable.

On May 13th, 1876, K., aged 17, a merchant's apprentice, entered the hospital with signs of extensive phthisis, and at the same time the liver and spleen were found to be enlarged. There was slight diarrhœa; no dropsy; the urine contained no albumen. The further progress of the case was that of destructive pulmonary phthisis, with formation of great cavities, hectic, and diarrhœa. The urine meanwhile presented no abnormality; its quantity daily was about 1000 c. c. (about 34 oz.) of sp. gr. 1011–15, clear, transparent, and bright yellow-coloured. The pulse was very weak; there was no dropsy. On June 12 signs of dry pleurisy appeared on the left side, with great pain, requiring narcotics; soon afterwards there appeared signs of dry pericarditis; also, on the 20th, an exten-

sion of the cardiac dulness, with enfeeblement of the pericardial friction, were observed, and at the same time slight œdema of the ankles and instep showed itself. The patient complained of abdominal pain increased by pressure. The diarrhœa persisted, in spite of the employment of astringent remedies. The urine, which had hitherto been clear and bright, became now brownish-red, turbid; its specific gravity rose to 1020 and over; the quantity in twenty-four hours sank from 950 cubic centimetres to 500 and 600. The whole aspect of the case and its history left no room to doubt the existence of amyloid degeneration of the abdominal organs and the mucous membrane of the intestine, so special attention was paid to the urine; but, though daily examined with the utmost care, albumen was never discovered; even on boiling it with concentrated solution of sulphate of soda and acetic acid, there was no trace of turbidity. Equally unsuccessful were the attempts to find tube-casts. The pulse remained small and feeble. While the pleuritic signs remained on the left side, and towards the end of July were audible on the right side also, the pericardial effusion became greater, until at last the heart's sounds were scarcely to be heard. The quantity of urine remained small, frequently scarcely 500 cubic centimetres of brick-red, thickly sedimented urine, free from albumen. The diarrhœa and abdominal pain persisted. The anasarca increased, there was collapse. On August 4th there appeared a miliary petechial eruption on the chest and belly, which increased on the succeeding days. The urine was only 350 cubic centimetres. The abdominal pain prevented sleep at night, and was only partially relieved by morphia injected hypodermically: the diarrhœa hastened the collapse to the end. On August 8th the urine was 380 cubic centimetres, specific gravity 1026, highly coloured, no albumen; pulse scarcely perceptible. Increasing dropsy killed the patient on August 9th.

The diagnosis was inflammation of the serous membranes, with pulmonary and intestinal phthisis, and at the same time amyloid degeneration of the liver, spleen, and intestinal mucous membrane. The participation by the kidneys in the degeneration was excluded by the results of the chemical examination of the urine.

The necropsy (made 9th August, 1876, by Dr. Jürgens) verified the diagnosis and extended it, as general miliary tuberculosis and amyloid degeneration of the kidneys were present. "The left kidney, of normal size, showed on its surface as well as on section a few miliary and some larger yellowish-white tubercle nodules in the cortical substance. The latter is of normal breadth, strikingly pale, grayish-white coloured. With iodine, numerous deep brown points and streaks appear." The right kidney was taken out entire for injecting and left intact. Microscopical examination showed that a large number of the glomeruli were degenerated, and that in many cases the entire vascular tuft was affected and transformed into a homogeneous glass-like mass. Partially degenerated glomeruli were rarely visible, the antithesis between normal and diseased being almost complete, the latter being much the more numerous. The interlobular arteries, *vasa afferentia et recta*, and the interstitial capillaries, showed the disease very plainly. The renal epithelium was quite normal, except a moderate degree of fatty degeneration of the epithelium of the convoluted tubules.

The second case was also one of phthisis—F. S., aged 23, admitted April 1, 1878. There were a large hard spleen, and profuse watery diarrhœa, but nothing abnormal in the urine, although, as amyloid degeneration seemed so probable, it was examined with care. During the thirteen days he was under observation, his urine averaged 1000 to 1100 cubic centimetres daily, of specific gravity 1010; it was bright yellow, clear, without deposit, no albumen or tube-casts. The lower extremities were on admission moderately swollen, and remained so till death. His pulse was throughout unusually small and easily compressible, somewhat

irregular. The heart's sounds were clear. There were cavities in both apices; the pleural sacs were normal. The abdomen was tender on pressure; he had loose stools four or five times in twenty-four hours. Death occurred April 13th. The diagnosis was lung and intestinal phthisis, with amyloid degeneration of the spleen and intestinal mucous membrane, while, from the recollection of the preceding case, the possibility of amyloid disease of the kidneys was entertained.

At the necropsy were found ulcerating phthisis of the lungs and intestines, sago spleen, fatty liver, with amyloid degeneration of the vessels, amyloid intestines and kidneys, fatty and very flabby heart, especially the left ventricle. The report says, "The left kidney appeared slightly enlarged; the surface was smooth, anæmic, the stellate veins slightly congested; on section the substance was very pale, without any special change to be recognized. The right kidney was reserved for injection, and not cut. Iodine gave no very definite result to the naked eye; the characteristic coloration appeared in the vasa recta of the medullary portion, but in the cortex only here and there brownish-red glomeruli could be seen. Microscopical examination confirmed these results so far that the vasa recta were very degenerated, and in the cortex there was a moderate affection of the glomeruli, only single capillary loops being diseased, and most of the tufts being quite normal. The interlobular arteries, as well as the vasa afferentia, and the interstitial capillaries were degenerated in places, but less than the vessels of the medullary part. There was no further change noticeable, except fatty degeneration of the epithelium of the straight tubules of the medullary portion, which in some places was so intense that the separate cells could not be distinguished. The heart's muscle was also to a great extent fattily degenerated."

The third case came under observation about the same time, and was that of a woman, K., aged 42, who complained of indigestion. Examination showed enlargement of the liver and spleen. Both organs were painful on pressure, and felt firm and hard. The surface of the liver felt uneven, without being granular; through the relaxed abdominal walls distinct lobulation could be made out. There was a little ascites; nothing abnormal in the thorax; stools normal; complete absence of anasarca. The quantity of urine up to shortly before death averaged 900 to 1000 cubic centimetres, of 1011–13 specific gravity; it was generally clear, yellow, without deposit. Daily examination for albumen and tube-casts gave a negative result. She died after being in hospital fourteen days. The necropsy showed a well-marked syphilitic liver; the organ was on the whole enlarged, but contracted in places and furrowed by deep cicatrices; the parenchyma was studded with gummata. Microscopical examination showed that the arteries and branches of the portal vein had undergone amyloid degeneration. There were also sago-spleen and smooth atrophy of the tongue. Old tumours or cicatrices were nowhere present. The left kidney was of normal size, strikingly anæmic, and harder than natural. The iodine test showed to the naked eye degeneration of the vessels of the papillary layer, while the cortical vessels and glomeruli took on no noticeable change. The right kidney was reserved for injection. The heart was soft and flabby. The kidneys were examined microscopically immediately after the necropsy. The vasa recta were the most affected; the glomeruli were in part healthy, here and there degenerated, but only to be recognized by specks of coloration by iodine or methylaniline. The vasa afferentia took on the characteristic staining in parts, but the interstitial capillaries appeared quite healthy. Of other changes, only a slight degree of fatty degeneration of the epithelium of the straight tubules was noted.

In a fourth case, not seen by the author but communicated to him by Dr. Weigert, there was also amyloid degeneration of the kidneys, but no albuminuria before death; it was also a case of phthisis. The kidneys were anæmic, otherwise

unaltered, and the amyloid degeneration of the vessels would have passed unobserved but for the affection of other organs. The microscope showed moderate degeneration of the glomeruli and the cortical vessels; no other change was noted.

The first case related drew the author's attention to this subject; it was remarkable that, for three months during which it was under observation, only once was a slight turbidity noticed with nitric acid. It might be suggested that the affection of the coats of the vessels was too slight to permit the passage of albumen, or that the vessels concerned in that process were intact, but these explanations were disproved by the results of examination. It was very noticeable that some of the glomeruli were quite healthy, while the rest were in a very advanced stage of degeneration, and no intermediate partially affected tufts existed. By injection it was found that the fluid ran easily into the healthy tufts, but in no instance succeeded in reaching those diseased. This led the author to imagine that in this the explanation of the absence of albuminuria might be found. In order to test the truth of this hypothesis he examined all the amyloid kidneys he met with, and the cases above related are those in which no albuminuria occurred; but it will have been noticed that the same distinct separation of perfectly healthy from very degenerated glomeruli does not hold good in them, and in those partially affected, injections could be driven into the tufts, while it could not be assigned to want of pressure from feebleness of the heart, as this organ was healthy in Dr. Weigert's case. He was led, therefore, to look for its cause to the other concomitant changes, frequently met with in amyloid kidneys, the inflammatory affection of the parenchyma, absent in these cases, which were instances of simple uncomplicated amyloid degeneration, such as Grainger Stewart has described as the first stage of the general affection. He admits, however, that simple amyloid degeneration of the vessels may and does give rise to albuminuria, but need not do so if it is restricted to the capillaries, or only slightly implicates the glomeruli as well. The condition of the heart in these cases is a complication of the factors, which must not be lost sight of. Under such circumstances, the positive recognition of the state of the kidneys must be admitted to be impossible, and it raises for the general diagnosis of amyloid kidney new difficulties which scarcely appear surmountable. If in cases like the above, on the ground of dyscrasia with coincident enlargement of the liver and spleen, and the presence of profuse diarrhœa, a complication of amyloid kidney be thought of, yet, even when this happens to be actually found on *post-mortem* examination, it remains rather of the nature of a surmise than a diagnosis. If the amyloid degeneration is secondary to a so-called interstitial or parenchymatous nephritis (the large white kidney of the English) the complication may easily be overlooked during life; on the other hand, when the diagnosis seems certain, in cases of constitutional disease with amyloid degeneration of the organs, at the autopsy the kidney is found to be large and white, revealing, however, no trace of amyloid degeneration after the most careful microscopical examination.

In pursuing these investigations, the author used the old method (iodine with and without the addition of sulphuric acid) and the aniline test; he considered no case proved in which the reaction could not be obtained with both. In only one case has he found any difference in these methods; that was a kidney which contained many tube-casts, and on section these took on bright red staining with methylaniline, and yellow with iodine. During life, the cylinders in the urine presented no characteristic reaction. He does not agree with Fürbringer in thinking that this proves methylaniline a better test for amyloid degeneration than iodine, or that the tube-casts in this case were really amyloid. He has used both, and thinks, as a rule, one is as good as the other; but the methylaniline is more easily applied, and the contrast is more striking. He refers to the disputes

as to the vessels primarily attacked, and is of opinion that, although those of the glomeruli generally suffer first, this is not a rule without many exceptions. It has also been laid down that the muscular coat is first affected. To this he also takes exception as an universal rule; he has found in some cases the intima, in others the adventitia, diseased, while the muscular coat was still normal. There is no reason to believe that the degeneration extends by direct continuity, isolated sections of vessels being frequently diseased. He believes that the degeneration in the kidney always begins in the vessels and not in the interstitial tissue. The capsules of the glomeruli are often affected. He has often seen three cases of venous thrombosis, as recorded by Bartels. There were no clinical manifestations of this condition, although the trunk of the renal vein was obstructed, and the thrombus extended far into the renal substance. The kidneys were white, and showed no trace of venous engorgement. From this and from the possibility of completely injecting the organ without extravasation it was plain that sufficient collateral veins existed or had been developed since the thrombosis to carry on the circulation; but a complete explanation of these thromboses, which are generally unilateral and very seldom on both sides, cannot at present be given. The slowing of the blood-stream by increased resistance is not a sufficient explanation, considering the frequent onesidedness of the affection.—*London Med. Record*, Aug. 15, 1878.

—

Parenchymatous Inflammation, and the Mode of Formation of Fibrinous Tube-Casts.

Dr. E. AUFRECHT, of Magdeburg (*Centralblatt für die Medicin. Wissenschaften*, May 11), has made a series of experiments by tying the ureters of rabbits on one side, in order to verify his opinions as to the connection between parenchymatous and interstitial inflammations and the existence of a primary independent parenchymatous inflammation. He found that at first simple parenchymatous inflammation occurred, and a day later interstitial inflammation supervened. If the animals were killed within the first three days the affected kidney was found noticeably swollen, and its pelvis and ureter above the ligature were much distended. On microscopical examination the interstitial tissue of the organ was quite normal throughout, as was also the medullary parenchyma, but the tubules of the cortical substance, especially the convoluted ones, showed dilatation of their lumina with granular and fatty degeneration of their epithelium. In a majority of these tubules there were the finest fibrine-cylinders; these were seen best when the organs were examined fresh, or after being in bichromate of potash for only a few days. The cylinders then project from the tubules. When they are inside of these, they are only very rarely seen on account of their being covered by the clouded epithelium. After longer hardening, only a much smaller number can be found; apparently because it is only in fresh specimens that they are squeezed out of the tubules by the shrinking or contraction of the tissues. It is, therefore, necessary to teaze out the preparation in order to demonstrate them after hardening. The following facts concerning their origin are noteworthy: The epithelium in these kidneys was complete throughout. The cells were much clouded, could not be distinguished separately, and their nuclei required fuchsin to make them visible; a defect was nowhere visible. Within this completely unchanged epithelial layer lay the clear pale cylinders. It is plain that the epithelium as such, that is, their substance *in toto*, could not have been employed in forming the cylinders.

Again, there is the possibility that they owe their origin to an exudation from the bloodvessels. The interstitial tissue and the bloodvessels did not show the slightest change within the first three days. Besides, the increased intratubular

pressure due to the ligature on the ureter makes the entrance of fluid into the tubules out of the bloodvessels scarcely conceivable; and thirdly, in those kidneys in which interstitial inflammation had commenced, the fibrine-cylinders had disappeared. If the animals were killed after six days, the interstitial tissue was found distended by numerous cells, the epithelium of the tubules was less cloudy, well defined from each other, and with very visible nuclei, no sign of epithelial destruction, and no cylinders in the tubules. The author has verified this observation in kidneys, the ureters of which have been tied six, twelve, and up to twenty-three days. In addition, he gives the following positive facts: He saw once a cylinder made up of single irregular pieces, which were separated by fine bright lines. Twice he saw epithelial cells, with bright round structures protruding, which in appearance completely agreed with the pale cylinders. He therefore concludes that the fibrine are cylinders formed in consequence of the irritated state of the epithelium from the urinary stasis, that they are a secretion of inflamed epithelium which exudes in the form of large clear drops, and subsequently runs together into cylinders taking the form of the tubules.

The presence of urinary cylinders contemporaneously with the disease of the epithelium, and the absence of any trace of interstitial change, are also important proof of the correctness of the view that there is undoubtedly a primary parenchymatous inflammation.

Virchow has fallen into the error of maintaining that parenchymatous inflammation leads to the destruction of the affected elements; he assigns to it a degenerative character. In reality, from this opinion proceeds the view of a great number of our modern pathologists, that parenchymatous inflammation is not inflammation, but a secondary process, and much more to be regarded as a simple nutritive derangement. In opposition to Virchow, Aufrecht assigns to parenchymatous inflammation an eminently separative character, and the proof of this must upset the opinion that it is only a secondary process. When a muscular fibre in typhus or other nervous affections loses its transverse striæ, and in place of these dark granules and oily particles in great number appear, one may doubt, whether we have to do with an inflammation or a destruction, an active or a passive process. But when, as he has shown recently in his paper on muscle and nerve regeneration in the *Deutsche Arch. für Klin. Med.*, in the further progress of this affection of muscle the granules and oil-drops disappear, and the clear basis-substance in which they were imbedded shows itself as a nucleated protoplasmic mass, the so-called nucleated muscle-plate—in which around every single nucleus new transverse striation appears until the entire muscle-plate is striated, then this is a regenerative inflammatory process of parenchyma. If in a nerve the medullary sheath and axis-cylinder be destroyed, and the inside of Schwann's sheath become filled with myelin and fat, the appearance of which expresses the complete destruction of the nerve, if these then disappear so that the nuclei of the nerve-fibre revert to an ordinary protoplasmic mass, and out of this new axis-cylinders be formed, this is a parenchymatous inflammation leading to regeneration. He infers a similar relation for parenchymatous hepatitis, based on a large number of experiments with phosphorus, as well as for parenchymatous nephritis, from the above observations on ligature of the ureter. Collating these facts with his clinical observations, he has come to the conclusion that diffuse interstitial nephritis and hepatitis follow parenchymatous inflammation of the same organs. If the liver or renal epithelium become diseased in consequence of a similar irritation, and this is not of such a degree that the entire organ is destroyed, or when a moderately intense irritant acts for a longer time, a change takes place which in no way leads to destruction, except in so far as this is the consequence of the entrance of numerous cells into the surrounding

parts, and the new formation of connective tissue.—*London Medical Record*, August 15, 1878.

Boracic Acid in Skin Disease.

NEUMANN (*Centralblatt für Chir.*, No. 8, 1878) has employed boracic acid, sometimes alone, sometimes in connection with oil of cloves, in the fluid form and in ointments. In pityriasis versicolor and tinea tonsurans, alcoholic solutions, 10 to 300 with 2.50 of oil of cloves, and 20 to 300 with 3.0 of oil cloves, have been used. In pityriasis rubra and all varieties of eczema, the acid has been employed in the form of ointments of 10 to 50. Neumann considers the remedy a valuable one.—*London Medical Record*, August 15, 1878.

Surgery.

Cause of Death after Burns.

In a communication read before the meeting of the Association of German Naturalists and Physicians (*Berliner Klin. Wochenschrift*, No. 46, 1877), Dr. PONFICK gave the results of a series of experiments made by himself and F. Schmidt with reference to the results of severe burns. The blood was found to be altered in all cases of severity, the red corpuscles separating into numerous small bits. These disappeared after a varying number of hours, with the seeming effect of exciting grave disturbance in several organs. A large portion of the apparently free hæmoglobin was eliminated through the kidneys, the parenchyma of which in the severe cases was evidently much inflamed, peculiarly coloured casts being found in the urine, while the tubules were obstructed and the epithelium in a state of fatty degeneration. Another portion of the decomposed red corpuscles was taken up by the contractile cells of the spleen and bone-marrow, in which a gradual destruction was probably accomplished. The enlargement of these parts, their increased redness and moisture, appeared to indicate that the change mentioned was present.

Dr. Ponfick believes it probable that some of the rapidly fatal cases and some of the severe symptoms in cases of recovery result from the extensive and sudden destruction of red blood-corpuscles. The rapid suppression of urine, and a resulting uræmic poisoning, may also be of importance. From the evidence presented by these experiments, Ponfick recommends transfusion as a rational therapeutical measure in cases of severe burns.—*London Med. Record*, July 15, 1878.

Paraffin Splints.

Dr. WILLIAM MACEWEN, surgeon to the Royal Infirmary, Glasgow, having for some years used paraffin for the formation of splints, and having found it possessing considerable advantages, brings it to the notice of the profession (*Lancet*, Aug. 31, 1878).

After having tried many different plans, Dr. Macewen has found that soaking gauze bandages in the paraffin and applying them to the limb as an ordinary roller obviated the difficulty of causing the patient to feel the heat, and at the same time it produced a much firmer and more compact splint than the old method. If a semi-elastic bandage is required, the surgeon should order the manufacturer to forward a paraffin with a low melting point, say 110° F.; but if

he desire a firm immobile splint, let him order a paraffin with a melting point of 130° F. It should be perfectly pure; those having an odour of naphtha are not so, and consequently ought not to be used. It is the ordinary commercial solid paraffin which is supplied. It is formed in blocks, and is a perfectly odourless, translucent or whitish neutral solid substance. In this state it remains for any length of time without suffering from atmospheric exposure; water or moisture has no effect upon it; in fact, it is almost indestructible except by burning.

When the paraffin is required for use, the first step is to liquefy it. In order to hasten the process of liquefaction, the block should be scraped down with a knife or broken into small pieces with a hammer. It may be liquefied in various ways, but the simplest and most cleanly is to place the paraffin in a vessel which should then be immersed in another containing boiling water. These two vessels may be placed on a table with something covering them, and, if well managed, the paraffin will be found melted in from ten to fifteen minutes, or even less. The gauze bandages, previously rolled and ready for application, should then be dropped into the melted paraffin, and in five minutes they become saturated. They are then lifted, the superabundant paraffin gently pressed from them, placed on a plate, and when sufficiently cool to be handled by the surgeon he takes them up and applies them to the limb. The nurse may have the bandages quite ready for the surgeon, who has then only to apply them to the part. A dry gauze bandage ought first to be applied to the limb, to prevent the paraffin bandage from adhering. If a very firm splint is desired, a coating of hot paraffin may be brushed over the bandage after two or three layers of the roller have been applied to the limb—just in the same way as one would do in making a starch bandage, in which case he would apply a starched roller first, and then rub a quantity of starch round the limb before applying a second. The splint begins to cool in a few minutes after application; but the cooling may be hastened or retarded at will, by allowing or preventing a free current of air to play over it. In about fifteen minutes to half an hour it will become firm and solid. The bandage spoken of may be made of ordinary coarse gauze, or of any thin loose material which will form a framework for and retain a quantity of the paraffin in its meshes. If the splint be required for a compound fracture, the antiseptic gauze may be used, and in this way an antiseptic, or at least a neutral, splint may be obtained. If windows or apertures be wanted, these may be cut out with a pair of ordinary dresser's scissors immediately after the splint has been adjusted, before it is quite solid. If, for any purpose, a splint is required to be removed from a limb, this may be done while the splint is still warm by a pair of dresser's scissors. Holes may be punched in the splint and the apparatus readjusted, and afterwards held firmly together by a lace. After the splint has become firm and solid it may be cut with a sharp pocket-knife, though this is not so easy as cutting with scissors while the splint is still soft.

Paraffin splints do not shrink or contract on the limb in the same way as starch and plaster of Paris bandages do. This at first sight might seem strange, as every body contracts as it cools, and paraffin forms no exception to this rule. But this apparent contradiction may be explained by bearing in mind that the first part to cool is the external layer, the internal being kept warm both by its own heat and the heat of the body, so that the cooling will take place from without inwards, and the contraction will take place towards the outer layer. As a consequence of this fact, the bandages should be applied with the firmness which it is necessary to maintain. If any doubt remains regarding the amount of pressure exercised, the surgeon will be able in a few minutes to see the result of the pressure on the extremity of the limb.

The hands of the surgeon will get smeared with paraffin, but this can easily be

removed by washing them in hot water. Before touching the melted paraffin, if he rubs his hands over with glycerine, the paraffin will not adhere in the same way. A piece of India-rubber sheeting or a newspaper should be placed under the limb to catch any drops of paraffin which may fall. If the paraffin is allowed to cool, it will then scale off from these articles, and very cleanly so from the India-rubber sheeting. If any drops fall on the clothing, they will brush off if allowed to dry, or if the article be placed in hot water the paraffin when melted will rise to the top of the water. All scraps of paraffin may be collected and kept for future use. When the splint is for no further use, it may easily be removed by cutting it off with a sharp knife or a strong pair of scissors. If it be on a limb, it can be immersed in hot water, and when it becomes pliable it may be easily removed. After it has been taken off the limb, the bandage should be plunged into hot water—boiling water—when the paraffin will rise to the top and float, while the bandages and any dirt which may be on the paraffin will fall to the bottom. The dish should be permitted to stand until the water cools, when the paraffin may be removed in shape of a solid cake. It is thus ready for use a second time. In this way it may be used again and again.

Not only is it of use for ordinary splints, but it may be formed into any conceivable shape. Sayre's ideas regarding spinal bandages may be admirably carried out in paraffin. After the bandage has been applied during suspension, the jacket may be cut up the side, holes punched in it, and the apparatus may then be taken off and put on at pleasure, it being laced like a pair of stays. It may be taken off at night, if that be desirable, and it permits of the performance of the ordinary ablutions which add greatly to the patient's comfort. If in any case it is necessary to make the inside of a splint impervious to moisture, a mould of the limb ought first to be taken by applying the paraffin bandage in the usual way, then cutting it up, and brushing the inside and cut margins with paraffin. Such a splint will then resist the imbibition of discharges, and the wounds in the limb may be syringed out without detriment to the splint.

To summarize: Paraffin, as a material for the formation of splints, possesses the following advantages: 1. It is always ready for use. It may be kept for any length of time without spoiling or undergoing change, unless it is exposed to heat. 2. It is easy of application, requiring no special training or dexterity, and it may be ready for the surgeon about fifteen minutes after he has ordered it. 3. It sets readily, and yet not too soon. Starch and glue take a much longer time to harden, glass longer still, while plaster of Paris sets too quickly for many purposes. 4. Before it sets it may be cut with a pair of scissors and afterwards with a sharp knife. 5. It may be made into a splint quite impervious to discharge or moisture of any kind. 6. It is light, easy, and comfortable to the patient. 7. It may be formed into a semi-elastic bandage, or a firm solid splint. 8. It may be used many times. After one splint is finished the paraffin can be remelted and reapplied.

Regarding its defects, the one usually spoken of is its liability to ignite. This fear is founded on the idea people entertain of the inflammability of paraffin oil; but block paraffin has quite a different character. When pure, all the naphtha has been removed from it. A spark or a lighted match will not set it on fire. If it be thrown into the fire, it will burn like grease, but the splint will not ignite from any ordinary circumstance.

Blepharospasm successfully treated.

Dr. Thomas Buzzard reports an interesting and instructive case of this affection in the *Practitioner* for June. A married man, aged 53, two months before consulting Dr. Buzzard, was suddenly attacked with spasmodic twitching of the

left eyelid. His general health was perfect, and no cause could be assigned for the attack. Pressure over the left tragus and upon the skin for an inch in front of it, caused the spasms to cease for the time, but they recurred with extra violence when the finger was removed. The left ear was found filled with wax, which was at once removed. A weak constant current was applied; one rheophore behind the outer canthus, and one in front of the tragus, with immediate good results. One or two further applications of electricity, and a blister behind the ear, completed the cure.

It was difficult to allot the degree of utility due to each of the different steps of treatment adopted. The most important, probably, was the removal of the wax, and possibly this might have proved, eventually, sufficient to cure; but the spasms did not alter after its removal until the continuous current was applied, and therefore the rapidity of the relief must be, in some measure, ascribed to Voltaism; the blister, too, bore no unimportant part in allaying the nerve irritability.—*Lond. Med. Record*, Aug. 15, 1878.

—

Tuberculosis of the Eye.

All the vascular tissues of the eyeball have now been found to be the seat of tubercle, either in the form of a primary growth rapidly caseating and comparable to primary tuberculosis of the kidney or lung, or else—and this is the more common—in the form of miliary granulation, part of a general outbreak of acute miliary tuberculosis. In the choroid both these forms have been described, the first-named being known as "tuberculous choroiditis," as distinguished from miliary tuberculosis of the choroid. In an instance of the former variety recorded by Hirschberg there was nearly complete loss of vision in the left eye; the sclerotic was reddened and œdematous, the cornea hazy, the retinal veins greatly dilated, scattered retinal hemorrhages, and a white diffuse colour of the fundus of the eye due to the infiltration of the choroid. The right eye was unaffected. On dissection, a grayish mass, about three millimetres in diameter, surrounded the optic papillæ, being seated in the choroid, and extending to the sclerotic. It was composed of aggregations of yellow caseous tubercles. Many cases of secondary miliary tubercle of the choroid have been recorded. A case of primary tubercle of the retina has been observed by Manfredi, and of tuberculosis of that membrane secondary to tubercular growth on the iris, by Perth. Tubercle of the iris is less rare than that of the retina, and conjunctival tubercle has also been described. One of the most recent instances is recorded by Walb. It was a case in which a contused wound of the left eye, in a child a year and a half old, seems to have determined the tubercular growth. Eight weeks after the accident (the first effects of which were simple and transitory) the mucous membrane of the eyelids had become thickened and injected, and covered here and there by small whitish-yellow caseous nodules. There was much muco-purulent secretion. Microscopically the nodular growths proved to be thickenings of the connective tissue around miliary tubercle.—*Lancet*, July 20, 1878.

—

Treatment of Naso-Pharyngeal Polypi.

In a pamphlet devoted to this subject by Dr. D. JUAN CREUS Y MANSO, of Madrid, he gives the details of the symptoms and treatment of a formidable case of naso-pharyngeal polypus, in which he performed ablation of the upper jaw. The hemorrhage appears to have been unusually great, and the case terminated fatally on the eighth day. He takes the opportunity of reviewing the treatment of these cases, and the conclusions at which he arrives are: 1. That the so-called naso-pharyngeal polypi, which grow from the base of the cranium, are in reality

fibromas, and ought so to be called. 2. They not only invade the pharyngeal and nasal cavities, but they make their way into other adjoining cavities, through the apertures normally existing, into which they penetrate after the fashion of a wedge. 3. They produce very serious hemorrhages and symptoms depending on their increase of volume, leading to disturbance of important functions. 4. The cavity of the cranium itself is not free from their attacks, and after making their way through the bony walls, they may occasion immense losses of substance, without revealing their presence by any active symptoms. 5. It has not been shown that they cease to increase as the patients pass from youth to adult age, though they are most common in youth. 6. When the increase in size of the tumour, and the hemorrhage or other symptoms, threaten the life of the patient, if there be no evidence that it has penetrated the cranium its removal is indicated. 7. Palliative operations are useless, and at the same time serious, since they have to be repeated on account of new growth of the tumour. Their radical extirpation is sometimes followed by successful results. 8. Although it has not been shown that any operative procedure will prevent relapses, the radical cure should fulfil two objects: first, to destroy the tumour; and, secondly, to leave an opening sufficiently large to enable any recurrence of the tumour to be immediately attacked by some destructive agent. 9. All forms of ligature or cauterization are ineffective; excision is difficult and accompanied by severe hemorrhage; avulsion difficult and incomplete; electrolysis is also imperfect and incomplete. 10. These tumours cannot be attacked by the natural orifices, but Nélaton's or the palatine plan may be of service when there are no extensive ramifications. 11. Resection of the maxilla, although it causes an irreparable loss of substance, is necessary in complicated cases, and is not in itself a serious operation. 12. The floor of the orbit and eye should be preserved if possible, as well as the anterior face of the resected portion of bone. The cutting-pliers are preferable to the chain-saw in the greater number of cases, because it can be applied more rapidly, and the cut is clean. Lastly, the so-called osteo-plastic resections do not satisfy the second desideratum of the radical cure.—*Lancet*, July 20, 1878.

—

Successful Extirpation of a Central Osteosarcoma of the Lower Jaw, with Preservation of the Continuity of the Bone.

After a protest in favour of conservative surgery in operations for tumours of the lower jaw, on the score that many, especially those classified under the term epulis, do not involve the entire thickness of the maxilla, WEINLECHNER (*Allgemeine Weiner Medizin. Zeitung*, May 21) narrates a case of fibro-chondroma of the upper and lower jaw, in which, after removal, it was found that the thickening of the lower jaw was produced by hyperplasia of the bone substance, and that the removal of the entire thickness of the jaw, which had been practised, was not required in that particular case. Some time afterwards, a peasant boy, 18 years old, presented himself. Two years before, he had noticed in the vicinity of the first molar on the right side a painless tumour of the size of a small bean. The swelling steadily increased, and rendered mastication difficult. On admission to the hospital, the tumour was found to occupy the external surface of the lower jaw, from the lateral incisor to the second molar. It overlapped the teeth; the jaw was distended by the growth. The tumour was smooth, painless, and covered by the distended bone. The plan of operation consisted in removing the external lamella of the lower jaw, and then the tumour itself, leaving the internal table to give support to the parts, and to obviate deformity. An incision was therefore made along the ramus of the jaw, from the angle to the chin. After chiselling off the external covering of bone, the tumour was readily shelled out of

a central cavity, connected with several diverticula so as to cause the tumour to resemble an arborescent lipoma in shape. The cavity was well scraped out, and then washed with a 20 per cent. solution of chloride of zinc. On microscopic examination, the growth proved to be a myeloid sarcoma (epulis interna). A very fair recovery followed, and, as the author points out, the result, as regards the function of the jaw, is immensely better than it could be were the entire thickness of the maxilla removed.—*Lond. Med. Record*, Aug. 15, 1878.

—

Cancer of the Rectum.

Dr. VOLKMANN has published, in his *Klinischer Vortrage*, No. 131, an article on the methods of operating in cancer of the rectum. (It is abstracted by Dr. J. C. Warren, in the *Boston Medical and Surgical Journal.*) He describes three conditions, requiring different modes of operation. In the first there is a circumscribed tumour, in which case a small portion of the wall of the rectum is removed, the wound being closed by sutures. In the second class of cases the anus and a greater or less portion of the bowel are affected, necessitating an extirpation of the rectum, so called, the upper end of the gut being dragged down and stitched to the skin. Lastly, there is the same condition as in the previous case without implication of the anus. A circular portion of the rectum is removed, and the upper and lower edges of the bowel are brought together by stitches. In the first variety, which may or may not involve a portion of the anus, the wound must be made in such a way as not to cause stricture. The edges are carefully brought together with catgut sutures, and a fine drainage-tube is laid beneath them, the end of which protrudes at the anus. If the disease be wholly inside, we must first thoroughly dilate the sphincter and keep it open with spatulæ. The disease is then dragged down with hooks, and removed as if it were an external growth. The wound is stitched as before, but in order to have the tube discharge externally it is inserted through a fistular opening made by a narrow lancet at the outer border of the sphincter, extending up to the lower edge of the wound. There is no danger of stricture, even if the wound be vertical, owing to the capacious size of the rectum at this point. Sometimes dilatation does not suffice, and it is then necessary to cut through the sphincter down to the coccyx. This wound is afterwards carefully sewed up, but if the disease is on the posterior wall the tube can be laid in the wound beforehand.

When the whole anus and a part of the rectum is diseased the operation of the extirpation of rectum is performed, the sphincter and canal being removed as a hollow tube. To get room, incision may be made above into the perineum and below down to the sacrum. Volkmann has even resected portions of the bone as high up as the promontory, and in women a portion of the posterior wall of the vagina. Of course the peritoneum is laid open in these operations, but the hole is immediately plugged with carbolized sponges until the operation is finished, and is then carefully sewed up. The healthy end of the bowel is stitched to the skin, and then small drains are inserted, or in the more extensive operation a long non-fenestrated piece of tube is also inserted, reaching from without to some point in the depth of the wound, and is put in communication with a drip. The bed is protected by a rubber pan placed under the hips, and at the end of four or five days the drip is omitted.

In the third variety a circular piece of the rectum must be excised, the disease being altogether inside and involving the whole circumference. A preparatory incision is made upwards through the perineum and downwards to the sacrum, as far up as the lower edge of the disease, which is thus more easily removed. The mucous membrane above is then brought down to the lower edge of the wound

thus made and stitched to it, and the vertical cuts are sewed up. One of these vertical cuts may serve as a bed for the drip tube.

A plug of cotton inside of oil-silk is usually inserted into the bowel after the operation, and a T-bandage applied. Although these operations can be looked upon as only palliative, Volkmann urges them strongly on account of the immediate relief from pain which they afford. Moreover, cancer of this part is not by any means of the most malignant type. In three cases he has effected a permanent cure. In other cases there was no return for six, five, and three years respectively. A patient died of cancer of the liver eight years after the operation, without local return. Another patient is now about in active business, eleven years after the first operation, two operations having been subsequently performed. In very severe cases, such as he now declines to operate upon, he suggests as the operation of the future laparotomy, with extirpation of the rectum as high up as the sigmoid flexure, the end of the bowel being stitched into the wound. At present, for such cases he would advise lumbar colotomy, but would limit that operation to this class alone, and not advise it for so large a class as is done in England.—*London Med. Record*, Aug. 15, 1878.

Spina Bifida.

Professor RANKE, of Munich, has published an interesting contribution to our knowledge of the origin of this affection, based upon five cases, of which four died. In all the lumbar region was the seat of the malformation, and in no case was there any complication of hydrocephalus or hydrorachis. One case was punctured four times, and was remarkable from the circumstance that the child, after each operation, fell into a deep sleep; it is conjectured in consequence of the diminution of the intracranial pressure. The cerebro-spinal fluid was very rapidly re-formed, in the course of a few hours on each occasion; and from this it is assumed that the arachnoid, from which the fluid is supposed to come, must be a secreting organ of considerable energy, its action being probably produced by the diminution of intra-cranial and intervertebral pressure consequent on the paracentesis. The anatomical appearances in the fatal cases were as follows: In the three cases in which the sac was covered by normal skin the spinal cord was united with the wall of the sac, and extended as far as the lower sacral vertebræ, being thus considerably lengthened. From the place of adhesion the roots of the sacral and lumbar nerves were seen to *ascend* to their respective intervertebral ganglia. It is conjectured that the spinal cord, during the early period of fœtal development, while it occupied the whole length of the canal, became adherent to the skin, and was thus retained in its lowest position. The intervertebral pressure gradually bulged and stretched the skin, carrying with it the spinal cord: and this dislocation of the cord prevented the closure of the vertebral arches at the spot. The patency of the vertebral arches is thus regarded as the consequence of the original morbid condition. This idea was suggested by Morgagni, and advocated by Cruveilhier, although a very different opinion has been attributed to the latter in Germany, and even in France, in consequence of an erroneous statement by Virchow.

In one of Ranke's cases there was no cutaneous sac, but an area four centimetres long and two wide was occupied by a reddish granular membrane, evidently the spinal dura mater. He regards the absence of the skin as a secondary effect, and the origin of this form the same as that of the others.—*Lancet*, July 20, 1878.

Case of Delayed Union of Fractured Leg.

Dr. A. BIDDER, of Mannheim, reports, in the *Deutscher Medicinische Wochenschrift* for May 18, a case of which the following is a summary.

Compound comminuted fracture of right leg; healing under scab; defective formation of callus; injection of lactic acid; massage; final consolidation under walking exercise.

Graf H., an officer 28 years of age, got his leg severely crushed between a tree and his runaway horse. In the middle of the shaft the tibia was broken in several places, over a space of eight centimetres. There was much blood extravasated, and a wound, leading to the seat of fracture, about three centimetres (1.2 inches) long. The first surgeon summoned washed the wound out with a two per cent. carbolic lotion, applied a splint, and extension, and bound the limb with lint dipped in the same carbolic lotion. Dr. Bidder first saw the patient twenty-two hours after the accident. He removed everything under chloroform, and examined the fracture, during which the fragments became displaced, and a large blood-clot was forced from the wound. It was again syringed out with five per cent. carbolic water; the limb was covered with a thick layer of salicylic wool and then replaced in the splint. Two days afterwards, some symptoms of fatty embolism of the lungs appeared, which subsided. On the third day the highest temperature 38.8 Cent. (102.84 Fahr.) was reached. The dressing was, however, not changed for three weeks, when the wound was found to be almost healed. A plaster of Paris bandage was now applied and allowed to remain for four weeks, but at the end of this period very imperfect union had taken place. Another plaster of Paris bandage was therefore applied for a space of three weeks, but with no better result. A third was then applied for seven weeks, but no more union took place. A water-glass bandage was now applied, and the patient encouraged to move about on crutches, to get into the open air, and improve his general health, while Dr. Bidder determined to try the local effect of injecting lactic acid, which P. Vogt and himself had found in certain animals to have a powerful influence on regeneration of bone. A ten per cent. solution of lactic acid, combined with a two per cent. solution of carbolic acid, was the medium adopted. With a hypodermic syringe this mixture was injected into the mass of callus, or between the fragments, and as close as possible to the seat of fracture. Thirteen injections were made during a fortnight without effect. The solution was now increased in strength to a fifty per cent. solution of lactic acid, with which three injections were made at short intervals. Considerable local reaction followed, and the limb was left undisturbed in the splint for ten days, after which it was found that the fracture had become distinctly more solid.

Massage was now employed daily to the limb, and warm foot-baths were used, after which the limb was each day again replaced in the splints, and the patient sent out of doors on his crutches. Phosphorus pills were also given. Every day during his walks the patient tried more and more to bear on the injured limb, which at first caused much pain at the seat of fracture; but, by the end of three weeks of this kind of treatment by exercise, the fracture was found to be fully consolidated. Ten months after the injury the patient was able to return home perfectly cured.

[The author is to be congratulated on the result of his endeavours. It does not, however, appear clear that the injections of lactic acid had much to do with it. Putting the limb in splints, in such a case, and setting the patient on his legs to hobble about, is a very old plan in England, and a very successful one too. The more interesting question appears to be how far the antiseptic treatment of such fractures is likely to produce delayed or non-union. There would appear to

be no *a priori* reason for this, since the utmost a well-directed aseptic treatment can accomplish is to convert a compound into a simple fracture, so far as the healing process is concerned.]—*London Med. Record*, Aug. 15, 1878.

—

Symmetrical Gangrene of the Extremities.

Dr. NEDOPIL, of Vienna, reports, in the *Wiener Medicinische Wochenschrift*, No. 23, 1878, a case under the care of Professor Billroth, of "symmetrical gangrene of the extremities," and states in his comments that, under this title, Raynaud described a form of dry gangrene, characterized in the first place by its being independent of any apparent anatomical change in the vascular system, and, in the second, by its always attacking the homologous portions of the two halves of the body; at either the two upper or the two lower extremities, or all four together, or occasionally both external ears, cheeks, or alæ nasi. The gangrene always follows, and is associated with, a condition of idiopathic local asphyxia, which latter, however, does not always terminate in local death, but frequently disappears or remains uncomplicated by further changes. The local asphyxia is presented in one or other of two forms. The affected extremities within certain limits become bloodless and very pale, or their surfaces may present swelling and lividity, due to sudden arrest of the supply of arterial blood, and to capillary stasis of the venous blood. These two conditions may occur either simultaneously or in succession in the regions affected with local asphyxia. The subject of this affection is usually a girl or young woman. As a result of some insignificant cause, the fingers or toes become cold and senseless. In repeated attacks, there is usually a definite sequence, the same digit being attacked first and the others becoming affected in the same succession. An attack of local asphyxia usually lasts but for a few minutes, but may be prolonged for several hours. In the more serious attacks, in which there is much venous hyperæmia, the patient complains of intense burning and darting pains. In most cases of well-marked local asphyxia, there are indications of periodicity in the occurrence of the attacks, the patient in each instance being affected at a certain season, or at a certain hour of the day.

Just as the whole organism may recover from temporary asphyxia and syncope, so in these forms of local syncope and local asphyxia the parts involved may regain their normal condition when the attack has passed off. When, however, the intensity and duration of such attack have passed beyond certain limits, death results, and, the flow of blood having been arrested for too long a period, the affected part becomes gangrenous. The gangrene, which commences usually with intense pain, does not always present the same form. The affected region may become mummified, as in senile gangrene, or it may present such changes as are usually observed after frost-bite, or, again, the dead tissues may undergo a peculiar "parchment" metamorphosis, and form dry and very hard plates.

The case reported by Dr. Nedopil is that of a female, aged 19, who was first seen by Dr. Billroth in September of last year. In the summer of the previous year, the patient had noticed for the first time that the fingers became dead and pale after washing in cold water. In August, the tip of the index finger of the right hand, after an attack of local asphyxia, became very painful, remained hard for a time, and finally mummified. A line of diminution was formed after much inflammation, and subsequently the last phalanx became necrosed, and was removed. Just as the inflammatory process had ceased in the index finger, the middle finger of the same hand was attacked with inflammation, resembling that of paronychia, which did not extend beyond the radial half of the bed of the nail, and terminated in the exfoliation of some small dry and parchment-like

crusts. The patient, whose disposition had previously been lively, now became melancholic. A year later, the index and middle fingers of the left hand were similarly affected, and in like order, when the patient was first seen by Dr. Billroth, all the fingers of each hand were cold and pale.

There can be no doubt, Dr. Nedopil states, that the cause of such attacks of local asphyxia is spasm of the walls of the arterioles in the parts affected. Raynaud made out by ophthalmoscopic examination spasm of the retinal vessels in the subjects of local asphyxia and ischæmia. Through irritation of sensory and centripetal nerves, the reflex centre of the vaso-constrictors which control the circulation at the extremities of the limbs is excited. This spasm, when prolonged and carried to the extent of producing complete occlusion of the small arterial vessels, will give rise to the above-described pathological results.—*London Med. Record*, Aug. 15, 1878.

—

Treatment of Nævus.

Mr. C. G. WHEELHOUSE, Senior Surgeon to the Leeds General Infirmary, in his Address in Surgery at the recent meeting of the British Medical Association (*Brit. Med. Journ.*, Aug. 10, 1878), spoke of the treatment of nævus pursued at the Leeds Infirmary, where, for some time past, the surgeons have made this subject a matter of special study. He said: "Some years ago, Mr. Teale, having satisfied himself that, in many cases, the mass of a nævus was so surrounded by condensed connective tissue as to be practically encapsulated, set himself earnestly to work to ascertain whether it was not possible, by careful and deliberate dissection, to *enucleate* such growths. Setting aside the rule that, in excising a nævus, the knife must travel wide of the diseased structures, and pass only through surrounding healthy tissues, I have seen Mr. Teale, with the utmost deliberation, dissect out from their immediate bed such nævi as these, which by his kind permission I am enabled to show you, and remove them even from dangerous regions, and from subjects of the tenderest age. As the result of these operations, we have also, further, learned another lesson of great value: viz., that they are applicable not to *subcutaneous* nævi only, but even to such as have already involved the skin; and that, in removing them, it is not necessary to sacrifice the skin by which they are covered, simply because it is nævoid or traversed by a network of diseased vessels. These, Mr. Teale has found, will shrink and completely disappear under the influence of after-cicatrical contraction, and such skin is ultimately restored to a natural condition."

—

Regeneration of Nerves.

Dr. GLUCK (*Virchow's Archiv*, Band lxxii.) has recently conducted a series of experiments with reference to the healing of nerves after they have been cut. The sciatic nerve of fowls and the pneumogastric of rabbits were exposed and cut through, the results of the operation depending upon the subsequent relation of the cut ends to each other. Immediately after the section was made the nerve-fibres projected beyond the retracted sheath, and the myeline escaped. The cut ends were united during the next few days by a grayish-white translucent tissue. If a considerable portion (0.4 inch or more) of the nerve were removed, the intervening gray tissue became converted into a dense fibrous callus, no regeneration of the nerves occurred, permanent paralysis resulted, and the animals died during the subsequent five months. When, however, the cut ends were closely united, without the removal of a portion of the nerve, the results were quite different, being the more favourable the less the displacement. In certain cases where the nerve was simply perforated, longitudinal rows of fusiform cells, sur-

rounded by abundant homogeneous intercellular substance, were found within seventy-two hours after the operation. These bridged over the interval between the cut ends, sometimes extending from a central to a peripheral fibre. After eight days the ends were united by non-medullated nerve-fibres, which slowly and gradually became thicker. When the nerve was wholly cut across, and the ends united by sutures, the healing process took place in a similar manner, more time being required. Within eighty hours after the operation the wound was closed by a gray granulation tissue, in which, within a fortnight, spindle-cells arose, apparently from the nuclei of the neurilemma, and served to unite the cut axial fibres. A differentiation into axis-cylinder and myeline apparently took place later within these cells. The author considers that the newly-formed fibres arise from these large granular spindle-cells, which are to be regarded as of new formation rather than as outgrowths from pre-existing fibres. They resemble ganglion-cells rather than those of connective tissue.

The results of the histological examination were confirmed by physiological experiment, the time of the return of the function to the nerve-trunks corresponding with the appearances observed under the microscope.—*Lond. Med. Record*, Aug. 15, 1878.

Midwifery and Gynæcology.

Injections of Morphia in Irrepressible Vomiting of Pregnancy.

In the *Lyon Médical*, June, 1878, Dr. CHABALIER relates a case in which by giving an injection of morphia morning and night for two months a patient was able to partake comfortably of vegetables, soup, meat, etc., and to keep nutrition in a fair state. When Dr. Chabalier abandoned the injections at four and a half months' gestation, the patient suffered for three days from excessive agitation and excitement. During these three days, involuntary muscular movements and insomnia were present. The labour was natural, and the child furnished no evidence of being affected in any way by the morphia. Since then, Dr. Chabalier has twice had recourse to the same mode of treatment with equal success.—*London Med. Record*, Aug. 15, 1878.

—

Missed Labour.

In his thesis at the medical faculty of Nancy, 1877, on the subject of missed labour, Dr. MÜLLER, after long and laborious researches, after having collected, reproduced, and discussed most of the documents furnished by French, English, German, and Italian authors, does not hesitate to declare that there exists no authentic, convincing observation which attests the unlimited retention of the ovum in the human womb. Dr. Müller contends that most of the observations of cases in which the fœtal *débris* escaped by the genital canal may be explained on the supposition that they escaped thence through an opening from the abdominal cyst of extra-uterine fœtation. He says the "missed labour" of the English authors is nothing more than a labour which commences at term, in an extra-uterine gestation, but which does not continue.—*London Med. Record*, July 15, 1878.

—

Case of Cæsarean Section; Post-mortem; Delivery of Twins.

In the *Deutsche Medicinische Wochenschrift*, July 6th, 1878, Professor DOHRN relates the following case: He was called at 7 P. M. on May 10th to a primipara

at term, who had had twelve eclamptic convulsions since 11 o'clock in the morning. As he entered the patient's room at 7.5, she was moribund. At 7.15 she breathed her last. The fœtal heart could be heard, and Dr. Dohrn therefore at 7.20 extracted a child asphyxiated, but whose heart was still beating; artificial respiration was resorted to in vain. Whilst Dr. Dohrn was engaged in applying artificial respiration to the child he had just delivered, his colleague, who had remained by the body of the mother, exclaimed, "Here is another child." Dr. Dohrn at once delivered the second child, whose heart was also beating like that of the first. Artificial respiration was also unsuccessful in the second case. Dr. Dohrn attributes the deaths of the twins to the poisoning of their blood by the uræmia of the mother.—*London Med. Record*, Aug. 15, 1878.

—

Danger from Washing out the Puerperal Uterus with Disinfectant Solutions.

In No. 14, sec. 313, and No. 16, sec. 341, of the *Centralblatt für Gynäkologie* are two contributions, by KUSTNER and FRITSCH respectively, drawing attention to the possible risks that may follow from the too free employment of disinfectants in the form of injections into the cavity of the puerperal uterus. The symptoms were those of acute poisoning. In Küstner's case, which subsequently proved fatal, and in which the section showed that the introduction of the catheter had in no way injured the uterus, there were suddenly developed unconsciousness, contraction of pupils, rapid respiration (40 per minute), and the pulse ran up to 148, being weak and scarcely perceptible. Clonic spasms seized the arms, the head was thrown backwards, the jaws were clenched, and the small muscles of the face were convulsed, and a clammy sweat covered the patient. In 10 to 15 minutes she improved considerably. In half an hour afterwards the patient vomited black matter, and the urine, removed by catheter an hour afterwards, was perfectly black. The solution used on this occasion was one of acid to twenty of water. Fritsch records three cases of dangerous symptoms arising from washing out the uterus with disinfectants immediately after delivery. In one of these cases the disinfectant used was salicylic acid, in the other two carbolic acid. In all the cases, sudden collapse, unconsciousness, and extremely rapid pulse were observed. In the cases in which carbolic acid was employed, there followed the characteristic coloration of the urine. All these ultimately recovered. In all three cases the uterus was ill-contracted. Both authors regard those accidents as due to rapid poisoning from the entrance of the disinfectant into the blood through the patulous sinuses of the badly-contracted uterus; and, while strongly in favour of disinfectant irrigation of the puerperal uterus in cases where there is reason to apprehend putrid absorption from the endometrium, recommend strongly that the injection should be performed with the greatest caution, and the avoidance of a forcible stream.—*Edinburgh Med. Journal*, September, 1878.

—

The so-called Intra-uterine Rickets.

In his *Archives de Tocologie* for August, Prof. DEPAUL terminates as follows a series of articles which he has contributed under the following title: "On a Special Disease of the Osseous System developed during Intra-uterine Life, and which is generally described—erroneously, in my opinion—under the name of Rickets."

"If I have given to the facts which precede their true interpretation, I believe that I may sum up the most important points in the following conclusions: 1. The changes which the skeleton may undergo during intra-uterine life have very different origins. 2. Those which are generally described as congenital rickets

do not seem to originate in the same way as those which characterize rickets which is developed after birth. 3. The form and direction of the curvatures, the intimate structure of the bones, etc., all unite in establishing a very marked line of demarcation. 4. While in the disease developed during fœtal life all is explained by the absence or the irregularity of the deposits of the calcareous matter, in true rickets the morbid condition attacks bones already in great part constituted, disturbs for the time the regular progress of their development, and subjects them to a notable softening, which may be regarded as the primary cause of the deviations which they undergo. 5. The moral emotions of the mother, as well as her imagination, exert no direct influence on the vices of conformation in question. A superstition and credulity which no longer belong to our epoch could alone propagate and maintain a contrary opinion. 6. Nor can we attach them to lesions of the nervous centre and the consequent muscular contractions, although it appears to me to be incontestable that a great number of congenital osseous deviations have such an origin. 7. According to the facts recorded by science, the health of the mother is entirely unconnected with their development. In not a single case has the existence of scrofula, rickets, or syphilis been proved. 8. It is, however, well to note that on several occasions the disease has manifested itself in twin pregnancies, and this circumstance is probably not unconnected with its production. 9. The cases which have been recorded as examples of congenital fracture have been ill interpreted. They are but a variety of one and the same lesion, and are explained by the complete but limited absence of the deposit of calcareous substance, which, on the contrary, at certain points may take place in an exuberant manner, constituting the enlargements which have been erroneously adduced in proof of a process of consolidation. 10. The changes in the skeleton which form the object of this essay are far more frequent than is generally believed. At the present time I know of nearly forty cases, and do not doubt that further search would add to the number. 11. Not only are they of serious import by the changes which they induce in the conformation of the limbs, but they may, by causing deformity of the chest, impede the mechanical phenomena of respiration, and, by depriving the brain of suitable protection, expose it to lesions which will not permit of the establishment of extra-uterine life."—*Medical Times and Gazette*, Sept. 7, 1878.

—

Case of Monstrosity.

In the *Aertzliches Intelligenz-Blatt*, May, 1878, Dr. TISCHLER relates a case of double monstrosity, the bodies of which were separate down as far as the loins, where they amalgamated. The children were dead. On the arrival of Dr. Tischler, two feet presented. Dr. Tischler, on examination, discovered the presence of two heads above the pelvic brim, and attempted to break up the wedge by decapitation, but failed to decapitate on account of the difficulty in reaching a neck, and the absence of room in the vagina. He finally extracted by the feet, one head emerging first, and then the other.—*London Med. Record*, July 15, 1878.

—

Dislocation of the Humerus in Puerperal Convulsions.

In the *Glasgow Medical Journal*, June, 1878, Dr. ROBERT MOFFAT relates a case of puerperal convulsions during which the right shoulder-joint became dislocated. The convulsions occurred on the 5th and 6th of January. The patient was delivered on the 5th of a female live child by instruments. On the morning of the 7th she felt well in every respect, except an intense pain in the right shoulder. Some days later, when the swelling round the shoulder had subsided,

it was found that a subcoracoid dislocation of the humerus was present. The patient was placed under chloroform, and the dislocation reduced.—*London Med. Record*, Aug. 15, 1878.

A Case of Hæmatocele Consecutive to Extra-Uterine Fœtation.

Dr. DUMONTPALLIER relates (*Annales de Gynécologie*, June, 1878) a fatal case of extra-uterine fœtation, which furnishes an interesting illustration of the relation of epileptiform convulsions to uræmic poisoning, and to loss of blood. The patient was a housekeeper, twenty-nine years old. Menstruation commenced at the age of eleven, and had been regular, but the period generally lasted from twelve to fifteen days. She had been married, and had three children in the course of several years. About November, 1876, she began to suffer from slight abdominal pain, but this did not interfere with her occupation. On February 19th menstruation commenced as usual (having been regular up to that time), and continued till March 1st, when she was suddenly seized with acute hypogastric pain, nausea, and vomiting, and became cold, faint, and extremely pale. A small clot was passed on this day, according to her description. Pallor and exhaustion increased, and on March 3d, she was admitted into the Hôpital de la Pitié.

At her admission she was excessively blanched, the mucous membranes decolorized, the tint of her skin like white wax turned yellow by age. In the abdomen was a firm, irregular, but elastic tumour, reaching up to two finger-breadths from the umbilicus, and extending into the pelvis. It filled the right iliac fossa, and in less degree, the left iliac fossa also. The cervix was much displaced upwards and forwards, and a rounded mass, not distinctly fluctuating, occupied the pelvis posterior to it. The os was soft, and admitted the tip of the finger. The patient stated that pregnancy was impossible. The diagnosis made was that of retro-uterine hæmatocele, with a large amount of blood effused. For several days repeated attacks of syncope occurred. Transfusion was several times contemplated, but was not performed. By the 9th distinct improvement had taken place. On the 17th pain commenced in the right iliac region, and the temperature rose to 40°.2 C., with some tympanitic distension of abdomen. These symptoms were attributed to peritoneal inflammation around the effusion, and lasted only three days, the highest temperature reached being 41°.2 C. On the 20th, the normal date of menstruation, a slight loss of blood commenced. On the same day, a peculiar spasmodic attack occurred, all the limbs, especially the arms, being strongly flexed. The head oscillated from side to side, and the eyes rolled. A similar fit occurred on the 21st. On the morning of the 22d a succession of epileptiform fits, like those of puerperal eclampsia, commenced. In the intervals there was complete unconsciousness, with tonic contraction of the arms, the face being pale, but lips purple from congestion. These attacks continued, without any recovery of consciousness, for about twenty-four hours. After this she appeared to become more conscious, but the face was congested as from asphyxia, and tracheal râles were heard; temperature, 39°.5 C. She died on the evening of this day, the 23d of March.

At the autopsy, all the lower part of the abdomen was found to be filled with a large clot, inclosed within a kind of capsule formed by agglutination of intestinal coils. The uterus was pushed upwards and forwards, reaching three finger-breadths above the pubes. The right iliac fossa was filled, in great measure, by a portion of the clot. The different layers of the clot varied in colour and consistence, showing it to have been formed successively at different times, the most recent portion being that near to the right broad ligament. On carefully separating the clot an amniotic sac was discovered, containing a fœtus 5½ cm. in length, corresponding to a development of between 2½ and 3 months. The funis was

slender, 9 cm. in length. It was attached to a placenta 2 cm. in thickness, which was blended with the pavilion of the right Fallopian tube. The right ovary showed a corpus luteum 2½ cm. in diameter. Both Fallopian tubes were permeable and unaltered. The uterus was 9 cm. in length, its walls 2 cm. thick. It contained no decidua visible to the naked eye. The quantity of clot turned out was 800 grammes, and the whole amount was estimated at about one kilogramme. Both ureters had been compressed by the clot, and above the point compressed, were distended to the size of an egg. The pelves and calices of the kidneys were dilated in corresponding degree, being on the right side at least three times their normal capacity; on the left side not quite so large. The urine was examined, and found to contain a very small proportion of urea, that in the bladder containing 6½ per 1000, that in the right ureter only 3½ per 1000. The author attributes the eclamptic convulsions and the fatal result to uræmia, due to incomplete excretion of the urinary solids in consequence of the compression of the ureters, and commencing secondary deterioration in the kidney-structure.

Some interesting histological details are given of the structure of the placenta, from an examination made by Dr. de Sinety. It proved to be closely analogous with the placenta of uterine pregnancy. As in that case, the middle layer consisted of chorionic villi and blood sinuses. Around the villi, as in the normal placenta, existed that layer of cells which by Ercolani are regarded as of maternal origin, and are identified with the giant cells of the decidua. Towards the maternal surface such cells formed an almost continuous layer, less thick than in a uterine placenta, but identical in appearance. Dr. de Sinety considers this a confirmation of his view that these cells are not derived from the uterine epithelium, but from lymphatic cells. None of the non-vascular lacunæ, regarded as remnants of hypertrophied uterine glands, were discovered. On microscopic examination of sections of the uterus the glands were found to be slightly hypertrophied, and the whole mucous membrane infiltrated with small round cells. There was no trace of surface epithelium continuous with that lining the glands. In parts the glandular layer was covered, on its internal surface, by a layer from $\frac{1}{5}$ to ¼ mm. in thickness, consisting of embryonic elements, among which numerous vessels were irregularly distributed. On the whole there was much less development of decidua than in a tubal pregnancy of similar date described by Ercolani, a difference which the author thinks may be due to the fœtal sac having been more distant from the uterus, and so having acted less powerfully upon its nutrition.—*Obstetrical Journal of Great Britain*, Aug. 1878.

Erosions of the Cervix.

The views entertained hitherto regarding these pathological conditions promise to be considerably revolutionized by the recent investigations of Drs. C. Ruge and J. Veit, of Berlin, into the pathology of the cervix uteri. The results of these observers are the subject of a paper in the ii. band, 2 heft of the *Zeitschrift für Geburtshülfe und Gynäkologie*, page 415. According to them, the prevailing views that regard these so-called erosions as granulating surfaces bereft of epithelium are entirely incorrect. These reddened and irregular surfaces are in no case ulcerative, and their elevated portions are not composed of papillæ laid bare. Observers such as Tyler Smith, who examined the surfaces microscopically, were led astray by the methods used in preparation of the sections which destroyed the epithelium covering the surface of the so-called erosion. According to our authors, the essential nature of the disease consists in an irritation of the rete Malpighii, or formative layer of the flattened epithelium covering the cervix. In consequence of this irritation the rete Malpighii is altered in character. The cells formed by

it are not transmuted into flattened epithelium cells, but are longer and larger, and arrange themselves at first in a single row of cylindrical cells below the normal epithelium. In consequence of this the superficial epithelium gets undermined and drops off. The surface that is covered by the single row of epithelium is at first smooth, but by-and-by prolongations of it grow into the subjacent tissue of the cervix. These prolongations inwards are at first solid, being formed of a solid ingrowth of epithelial particles; but presently they widen out at their deeper parts and become tubes, and many of them becoming constricted at the point where they leave the general mucous surface, are thus converted into glands. The tissues in the spaces between these inward growths of epithelium increase in size, grow outwards, and become peculiarly vascular. It is these hypertrophied intermediate spaces that have hitherto been regarded as enlarged cervical papillæ. According to our authors, every part of the reddened surface of these so-called erosions is covered over with a single row of cylindrical epithelium. The treatment must, according to Drs. Ruge and Veit, consist in accurately determining how much of the cervical surface is affected by this irritative degeneration. Then that portion has to be removed by the knife, or destroyed by some caustic. It is, according to our authors, immaterial what kind of caustic is employed, provided it is able to destroy the degenerate tissue.—*Edinburgh Med. Journal*, Aug. 1878.

The Dilatation of the Cervix Uteri by Tangle Tents.

This is the subject of an interesting article in No. 7 *Centralblatt für Gynäkologie* of this year, by Dr. B. S. SCHULTZE of Jena. The underlying principle of his procedure is the assumption that for safe dilatation the tangle tent must never come in contact with a raw wound surface. But, besides this, Dr. Schultze takes the strictest antiseptic precautions that the conditions of the operation allow of. To gain the end in view, namely, safe dilatation of the cervix, Schultze employs flexible copper sounds, of varying thickness, by which he ascertains the exact size and curvature of the cervical cavity. Having settled these points, a tangle tent, corresponding in thickness with the sound, which just passes the cervical cavity, is immersed for one or two minutes in boiling water, and being thus rendered flexible, the same curvature is given to it as that of the sound, which has been previously adapted to the cavity of the uterus. On cooling, the tent retains the curvature thus communicated to it, and after steeping it in a $\frac{3}{1000}$ solution of carbolic acid, it is introduced through a speculum, the cervix being meanwhile held down by an assistant with a hook or vulsellum. If a drop of blood is seen coming from the cervix during any of these processes, the operation is to be postponed for at least twenty-four hours. The patient is to be kept strictly at rest during the whole time that the tent is dilating, and the strictest care is to be taken in the removal of the distended tent that no injury is caused to the cervix. The vagina and cervical canal ought to be then carefully washed out with a $\frac{3}{1000}$ solution of carbolic acid. By these precautionary measures, the author states that he has been able, in several hundreds of cases, to dilate the cervix without any accident, and maintains that if his method is followed the usual contraindications to dilatation of the cervix can be very largely dispensed with. He holds that, according to his experience, chronic metritis, chronic perimetritis, and parametritis, even when the resulting catarrh is inconsiderable, are very beneficially influenced by repeated dilatation and subsequent washing out with carbolic acid. In a number of cases of enlargement of the uterus from chronic inflammation, Schultze was able to demonstrate by actual measurement diminution in size to have resulted from this treatment. These precautions seem to us worthy of consideration at the present time, when the attention of gynæcologists is so largely directed towards dilatation of the cervix as an aid in the treatment of uterine affections.—*Edinburgh Med. Journal*, Aug. 1878.

Distended Bladder simulating Ovarian Tumour.

Dr. LEDIARD, in the *Lancet*, p. 935, adds another to those deceptive cases where a vesical tumour simulated ovarian disease. The bladder had quite lost its power to contract on account of its long-continued overdistension.

[In the *Lancet*, vol. ii, 1875, p. 539, a somewhat similar case is reported by Dr. Jaccoud. Here the catheter failed to empty the bladder on account of atony of its muscular coats. Great dilatation of the bladder and uterus was found at the *post-mortem* examination.]—*London Med. Record*, Aug. 15, 1878.

Complicated Case of Ovariotomy.

In the *Wiener Medicinische Wochenschrift*, May, 1878, Dr. von MOSETIG-MOORHOF relates a case of bilateral ovariotomy. Emilie Dudisz, 21 years old, *puella publica*, came under his care in July, 1877, suffering from an abdominal tumour. Dr. Mosetig-Moorhof diagnosed an ovarian tumour and proceeded a few days afterwards to operate. After the cyst had been tapped by the trocar and drawn out of the abdomen, it was found to be the left ovary, and another tumour was found lying in the right hypochondrium. The second tumour proved to be a cystic dilatation of the Fallopian tube, the ovary at the extremity being normal and containing several corpora lutea. The ligamentum latum was transfixed with a catgut ligature, and the cystic dilatation, together with the right ovary, removed. A clamp was applied to the pedicle of the left ovary, and the abdomen closed. A Sims's drainage-tube was applied. The recovery was rapid and marked by absence of fever. The drainage-tube was removed from the vagina on the eighth day, the clamp fell off on the eleventh day, and on the fifteenth day the patient left her bed. Eight days later, she left the hospital in perfect health.—*London Med. Record*, July 15, 1878.

Medical Jurisprudence and Toxicology.

Malpraxis in Midwifery.

Prof. HERMANN FRIEDBERG, of Breslau, narrates, in Eulenberg's *Vierteljahrschrift für Gerichtliche Medicin* for April, the particulars of a remarkable case of injury done to an infant during delivery, which he was requested to report upon as an expert.

A woman twenty-three years of age, taken in labour with her third child on March 16, 1877, sent for an unauthorized midwife, whom she had engaged to attend her. About twelve o'clock at night this woman discovered a hand presentation, and made repeated violent traction on the hand and arm at intervals until two o'clock in the morning, when the arm came away. The midwife then introduced her hand, and worked it about for about five minutes, causing great pain to the mother, who, unable to bear it, sprang out of bed. While she was sitting on the edge of her bed, the child was rapidly and easily expelled by the breech without any assistance. The cause of the child's death now became the subject of a legal investigation, which was consigned to Prof. Friedberg. At the autopsy it was found to be a full-timed, strong, healthy infant, the general surface of the body being remarkably pale. The left arm and shoulder-blade were separated from the body with much laceration of muscle and effusion of partly coagulated blood, the acromion and coracoid process, however, not having been

fractured. The fifth to the ninth ribs were fractured near their anterior ends, coagulated blood adhering to the fractured parts and ruptured muscles. The lungs immediately sank in water, and no air issued on dividing them under water. An abnormal movability on the left side of the spine was found to arise from fracture of the necks of the seven upper ribs, accompanied by much effusion.

The autopsy is reported at much greater length, but these are the points that seem of most interest. From it Prof. Friedberg concluded that the child was a full-timed infant, which had never breathed, and therefore had never lived after its birth. Its death arose from the hemorrhage and contusion which had occurred during its birth, and which were caused by the violent manœuvres adopted by the midwife. As to the question whether the child was alive during the progress of the labour, Prof. Friedberg reports in the affirmative, not only because the patient and the midwife repeatedly affirmed that it moved, but from the condition of the blood observed after death, this being in a coagulated state in the vicinity of all the lacerated soft parts, while the separated arm, by its violaceous colour, tumefaction, and distension by red effusion, indicated that its circulation had been obstructed during life. The last point, that the death of the child was caused by the violent manipulation of the midwife, is demonstrated at what would seem almost needless length.

Prof. Friedberg rightly observes that this case stands alone in literature, and it would seem incredible, until the case had been carefully examined, that the woman here inculpated could, unaided by instruments, have torn off the arm and shoulder-blade and fractured numerous ribs of a strong and healthy child. To those in this country who are justly lamenting the want of regulations for midwives, it does seem surprising that in Prussia, where regulations of all kinds abound, this malpraxis could have been perpetrated by a woman "unauthorized to practise as a midwife," who yet had carried on such practice for nine years, during which she had delivered 347 women, many of whom no doubt have suffered more or less at the hands of one whom Prof. Friedberg stigmatizes somewhat mildly as a *Pfuscherin* or bungler.

The same number of the *Vierteljahrschrift* contains a report by Kreisphysikus Eberts on a somewhat similar case occurring at Weilberg. A maid-servant having become pregnant by her master, was delivered by a woman seventy-one years old, who, formerly a district midwife, had not attended a case for thirty years. She slept with her patient in the next room to that occupied by the father of the child and his wife, so that everything had to be managed as quietly as possible. The woman was delivered, and resumed her occupation next day, but a child's body having afterwards been discovered, she was apprehended. On examination the child was found full-time and viable, but it had never breathed since its birth. With the child its separated arm was found wrapped up in a cloth, and this had been divided at the mid-part of the humerus, the upper portion still remaining covered with a portion of the muscles. The left clavicle was also dislocated. The examination led to the death of the child, which was in a very bloodless state, being attributed to hemorrhage. A cutting instrument had evidently been used. The exact circumstances of the labour could not be known, as none but the midwife and patient were present, both of whom declared that the separation was spontaneous. The theory of the prosecution was that the presentation was a cross one, and that the midwife, in order to end it as soon as possible (a circumstance of importance in order to avoid detection), had seized hold of the hand instead of the foot, and made such violent traction as to dislocate the clavicle. Finding her efforts unsuccessful, she divided the arm with a knife, and then succeeded in turning, or a spontaneous evolution might have taken place.—*Med. Times and Gaz.*, July 27, 1878.

CONTENTS.

Anatomy and Physiology.

The Origin of the Red Blood-Corpuscles. By M. Pouchet 433
The Physiology of the Salivary Secretion. By Heidenhain 433
The Absorption and Excretion of Water. By Dr. Skorczewski 436

Materia Medica and Therapeutics.

Hypodermic Injection of Chloroform . . 437

Medicine.

On Malignant Lymphomata. By Dr. Wiegardt 438
The Pathological Anatomy of Scurvy. By Dr. N. Uskow 440
The Treatment of Diphtheria. By Dr. Ferrand 441
Brain-Forcing. By Dr. Clifford Allbutt . 442
Cerebral Lesions Occurring in the Course of Acute Articular Rheumatism. By Dr Ch. Liegeois 443
Opiates in Cerebral Anæmia and Diseases of the Heart. By Dr. Huchard . . 444
Four Cases of Spinal Paralysis of Adults. By Dr. Salomon 445
Sarcomatous Tumour in the Spinal Canal. By Dr. Hunicken 446
The Histology of Syphilitic Tonsils. By M. Cornil 448
Stenosis after Tracheotomy. By Dr. Volker 448
Contagious Pneumonia. By Dr. Kuhn . 449
Hepatico-Bronchial Fistula. By Mr. W. E. Green 450
Use of Digitalis in Disease of the Cardiac Valves. By Dr. F. A. Hoffmann . . 451
Action of Morphia on the Heart. By MM. P. Picard and Rebatel 451
Auscultatory Phenomena of the Arteries. By Dr. Senator 452
The Origin of Miliary Aneurisms. By Dr. Eichler. 452
A Remarkable Case of Sphacelation of the Stomach. By Dr. Dujardin-Beaumetz . 453
Case of Intussusception in an Infant; Recovery. By M. Ludewig 454
A Case of Hydatid Tumour of the Liver bursting into the Air-passages; Recovery. By Dr. Katz 455
Hydatid Cyst of the Liver in a Child. By M. Archambault. 455
Amyloid Degeneration of the Kidneys. By Dr. M. Litten 456
Parenchymatous Inflammation, and the Mode of Formation of Fibrinous Tube-Casts. By Dr. E. Aufrecht . . . 460
Boracic Acid in Skin Disease. By Neumann 462

Surgery.

Cause of Death after Burns. By Dr. Ponfick 462
Paraffin Splints. By Dr. William Macewen 462
Blepharospasm successfully treated. By Dr. Thomas Buzzard 464
Tuberculosis of the Eye 465
Treatment of Naso-Pharyngeal-Polypi. By Dr. D. Juan Creus y Manso . . . 465
Successful Extirpation of a Central Osteo-sarcoma of the Lower Jaw, with Preservation of the Continuity of the Bone. By Weinlechner 466
Cancer of the Rectum. By Dr. Volkmann 467
Spina Bifida. By Prof. Ranke . . . 468
Case of Delayed Union of Fractured Leg. By Dr. A. Bidder 469
Symmetrical Gangrene of the Extremities. By Dr. Nedopil 470
Treatment of Nævus. By Mr. C. G. Wheelhouse 471
Regeneration of Nerves. By Dr. Glnck . 471

Midwifery and Gynæcology.

Injections of Morphia in Irrepressible Vomiting of Pregnancy. By Dr. Chaballier 472
Missed Labour. By Dr. Muller . . . 472
Case of Cæsarean Section; Post-mortem; Delivery of Twins. By Prof. Dohrn . 472
Danger from Washing out the Puerperal Uterus with Disinfectant Solutions. By Drs. Kustner and Fritsch . . . 473
The so-called Intra-uterine Rickets. By Prof. Depaul 473
Case of Monstrosity. By Dr. Tischler . 474
Dislocation of the Humerus in Puerperal Convulsions. By Dr. Robert Moffatt . 474
A Case of Hæmatocele Consecutive to Extra-Uterine Fœtation. By Dr. Dumontpallier 475
Erosions of the Cervix. By Drs. C. Ruge and J. Veit 476
The Dilatation of the Cervix Uteri by Tangle Tents. By Dr. B. S Schultze . 477
Distended Bladder simulating Ovarian Tumour. By Dr. Ledlard . . . 478
Complicated Case of Ovariotomy. By Dr. von Mosetig-Moorhof. 478

Medical Jurisprudence and Toxicology.

Malpraxis in Midwifery. By Prof. Hermann Friedberg 478

Published Monthly, price $2.50 *per annum, free of postage.*

Also, furnished together with the AMERICAN JOURNAL OF THE MEDICAL SCIENCES *and the* MEDICAL NEWS AND LIBRARY *for* SIX DOLLARS *per annum in advance, the whole free of postage.*

HENRY C. LEA, Philadelphia.

THE MONTHLY ABSTRACT

OF

MEDICAL SCIENCE.

VOL. V. No. 11. **For List of Contents see last page.** NOVEMBER, 1878.

Anatomy and Physiology.

The Degeneration and Regeneration of Nerves.

Some months ago we called attention to an interesting series of investigations on the histology of the process of the union of divided nerves, which elucidated the details of the process by which the adventitial structures of a divided nerve-trunk effect its reunion. The changes which the nerve-fibres themselves undergo in consequence of division, and those by which their repair after injury is effected, have lately been studied with much care by Dr. KORYBUTT-DASZKIEWICZ, of Strasburg, and his observations add considerably to our knowledge of the processes. A few hours after the division of a nerve, an opacity and swelling of its medullary sheath is visible, together with a multiplication of the nuclei of its primitive sheaths. These changes, which constitute the first stage of the well-known process of nerve degeneration, are visible in both peripheral and central ends of the divided nerve-fibres, as far as the first of the constrictions which Ranvier discovered. The process does not pass over this limit, or, if it does, only extends as far as the next constriction. Simultaneously with this change in the nerve-fibres red and white corpuscles aggregate in the neighbourhood of the incision. The latter multiply, and assume an appearance very like that of the nuclei of the nerve-sheath. The nuclei become surrounded by protoplasm, and, in the course of the next few days, form knob-like projections at each end of the nerve, which projections, when the loss of substance in the nerve has been small, ultimately become fused together. The cells which thus bridge the gap between the two ends acquire ultimately a spindle shape, become transformed into connective-tissue fibres, and do not assist in the regeneration of the nerve-fibres themselves.

If the so-called paralytic degeneration goes on in the peripheral end of the nerve, a fresh series of changes commence, consisting in the segmentation of the medullary sheath, which takes place either simultaneously in the entire length of a fibre, or only in parts, now near the wound, now near the periphery. The portion of the fibre affected first presents incurvations which give it somewhat the appearance of an embryonal condition of nerve-fibre. The affected segments break up into globules, which often present distinct concentric striation. If the degeneration progresses further, the outer layer of the globules becomes liquefied, and breaks up into fat-globules, which become distributed more or less uniformly within the old sheath. Wherever the myelin has thus broken up, nuclei accumulate; whereas at those parts which are still normal no nuclei are to be seen. At the cut end of the nerve it is not difficult to trace the passage of nuclei from the cicatricial tissue into the interior of the sheaths of the degenerated nerve, but it is less easy to trace the origin of the nuclei which are seen within the sheaths of the peripheral portions of the degenerated nerves. It seems, how-

ever, legitimate to assume here also that they have wandered in, because cases were repeatedly observed in which white blood-corpuscles passed into the sheaths at the constrictions of Ranvier. However they have entered, the nuclei multiply, at first rapidly, until they have attained a certain number, and then commences their individual development. They acquire distinct contours, assume a rounded form, and nucleoli become visible within them. During the first few hours after the operation, and before the white corpuscles commence to pass in, the fixed nuclei of the wider nerve-sheaths take part in the transformation of the myelin. The nuclei enlarge, a zone of protoplasm becomes visible around them, and into others often pass minute spherules of myelin, blackening with osmic acid.

In the central end of the nerve the changes are different. After the inflammatory degeneration has extended as far as one of the constrictions of Ranvier, a change in the myelin is visible in a certain proportion of the fibres, the number of which increases the greater the loss of substance. Either the medulla assumes a wavy contour, or it becomes liquefied in a segment lying between two constrictions, without the process invading adjacent parts. An increase of nuclei is constantly observed in the latter form of degeneration. After the liquefaction of the old myelin there commences the formation of a new nerve-medulla, with the peculiar appearance that between two former constrictions one or two new ones are formed. The nuclei of the sheath of Schwann also undergo changes in the central end. Near the division of the nerve they swell up, become surrounded by granular protoplasm, and, after becoming separated from the fibres, assume an elongated form; whether finally developing to nerve-fibres could not be definitely ascertained. The axis-cylinders in the peripheral part break up into more or less numerous fragments during the segmentation of the medulla, and of these some apparently liquefy and participate in the same changes as the myelin, while others persist and clothe themselves with a new medullary sheath. In some cases the myelin remained upon some fragments of axis-cylinders until regeneration. Before the degenerated myelin began to lessen the fragments of axis-cylinders which persisted began to lengthen in each direction, the nuclei persisting within the sheath began to elongate, and lay at certain distances from each other. Simultaneously with this process, the new medullary sheath made its appearance as a varicose or a uniform deposit upon the axis-cylinder. Thus the fragments of axis-cylinder remaining serve as the starting point for a new endogenous formation of nerve-fibres. They present no tendency, in their farther growth to blend with one another, but remain in contiguity, growing in the same general sheath, close to one another, and ultimately, after the disappearance of the old sheath of Schwann, they develop as independent fibres. Hence, at a certain time, there is an appearance as of several nerve-fibres in a single sheath. If, however, after the division of a nerve, the axis-cylinder remains intact in its entire length, and the medullary sheath degenerates, the appearance of several fibres in the same fibre-sheath is never seen. If the division of the nerve entails a considerable loss of its substance, the appearance of a multiple endogenous regeneration of fibres is rarely seen, many fibres not being regenerated at all. This segmentation of the axis-cylinder is not the only mode in which the fibres degenerate. The gray fibres for example, sometimes present no change, and the smaller medullated fibres, regarded as young nerve-fibres, ordinarily only lose their medullary sheath; and, lastly, under certain favourable conditions, most of the fibres, large and small, present only medullary degeneration.

The regeneration of the extremities of the nerves in the muscle and skin occurs much later than the regeneration of the peripheral trunk, as the axis-cylinders of the terminal extremities of the nerves usually undergo complete degeneration.

On simple division of a nerve, the adjacent axis-cylinders of the central stump do not degenerate, but grow into the cicatricial tissue, where they become narrowed and clothed with a deposit of young medulla. Attaining the peripheral portion of the trunk, they become wider, and grow into it between the old and the new fibres. The path they take through the cicatricial tissue is evidently that of least resistance, being often sinuous. They often apparently attach themselves to vessels, which afterwards disappear. If the peripheral portion is absent altogether, as in extirpation of a nerve, the fibres growing from the centre commonly either attach themselves to a vessel, or widen out irregularly, or form knobby swellings analogous to the "bulbous nerves" of amputated limbs, which are formed by a convolution of medullated fibres and cicatricial tissue. When the loss of substance has been considerable, the regeneration of the fibres which degenerate in the central end occurs much more quickly than that of those in the peripheral end, but takes place by a similar process.—*Lancet*, Sept. 21, 1878.

—

The Magnitude of the Nerve Cells.

Upon what depend the variations in size of the cells of the central nervous system? An attempt at an answer to this question has been lately given to the Académie des Sciences by M. PIERRET, Professor at Lyons, who suggests that the size of the cell is in simple relation to the length of the fibre connected with it. Of the motor nervous system the largest nerve-cells are situated in the lumbar region of the spinal cord, and in the fronto-parietal convolutions. These two points are related one to the other, and the distance which separates them is very considerable. Moreover, the longest nerves of the body—the sciatic—arise from that point in the lumbar region in which are the largest motor cells. In the dorsal region the motor cells are far smaller. The distance from the brain is less, and the course of the nerves which spring from them is relatively short. In the cervical region the cells are larger than in the dorsal region, but smaller than those of the lumbar, which may be explained by the fact that they are not far from the brain; but the course of the nerves arising from them is of considerable length. So also with the hypoglossal nerve, the cells of which are only a little smaller than those of the cervical enlargement. For a similar reason the cells of the higher motor centres lessen in size in proportion as their distance from the cerebral hemispheres becomes less. Hence the sixth nerve is connected with larger cells than the third and fourth. Lastly, in the corpora striata the cells are still smaller, and may be distinguished in form from those of the optic thalami or corpora geniculata or corpora quadrigemina.

In the sensory system, the largest cells are found in the posterior vesicular column, in the neighbourhood of the lumbar enlargement. These cells probably receive the centripetal fibres from the lower limb, and they are removed for a considerable distance from the occipital lobes. The cells of the ganglia of the restiform body which receives the sensory fibres of the brachial nerves, and the nucleus of the sensory part of the fifth nerve, both have much smaller cells than those of the lumbar posterior vesicular columns, and they are much nearer the cerebral cortex. The cells of origin of the optic nerve are smaller than those of the fifth, and larger than those of the olfactory. The shortest nerve is that which is connected with the smallest cells—the auditory. Hence M. Pierret infers that the law which governs the increase or decrease in size of the cells is the same for both the sensory and motor cells, and may be formulated thus—that the size of the motor and sensory cells of the nerve-centres of man is directly proportioned to the distance which separates them from the peripheral organ which they innervate, and from the cerebral centre. This law is true for the cells of the cerebral cortex, for the largest cells are met with in the fronto-parietal regions re-

lated to the lower limbs, and in certain of the occipital convolutions cells are met with almost as large.

The theory is one of considerable interest, and there may be "something in it," but we doubt whether the accordance between the two elements, length of fibre and size of cell, is so close as to justify the formulation of so precise a law upon the subject. Moreover we know too little of the precise anatomical relations of the parts of the nervous system to permit us to generalize from the length of the fibres which probably commence and end within it. For instance, it is not at all proved that the fibres of the posterior nerve roots are connected with the cells of the posterior vesicular columns. The variety in size of the cells in the same group is also difficult to explain upon the theory of M. Pierret. The theory probably approaches as near an explanation as is possible in the present state of our knowledge, but it is doubtful whether that knowledge is yet sufficiently accurate to permit useful generalization.—*Lancet*, September 7, 1878.

—

The Analysis of Milk.

M. A. ADAM has sent to the Académie des Sciences a note on the new process for the analysis of milk, which gives rapidly the amount of butter, of lactose, and of casein in a uniform scale. The apparatus employed for the analysis consists essentially of a glass tube, holding forty centimetres, having a stopper above and a glass tube and stop-cock below. Into this is introduced, first, ten cubic centimetres of alcohol at 75° C., containing $\frac{1}{100}$ of its volume of caustic soda; secondly, ten cubic centimetres of neutral milk; and, thirdly, twelve cubic centimetres of pure ether. The tube is closed, well shaken, and allowed to rest for ten minutes. Almost instantly two layers are formed, sharply separated—an upper, limpid layer, containing all the butter; secondly, a lower opalescent layer, containing all the lactose and all the casein. The lower layer is then drawn out, with the exception of about one centimetre. That which remains is then shaken up with the upper layer. This buttery solution is allowed to run out into a porcelain capsule, and is washed with ether to collect the fat evaporated, and weighed. The difference gives the weight of the butter increased by one centigramme in consequence of adherent lacto-caseous matter. If the ether is then evaporated in another capsule, the direct weight of the butter is ascertained. In order to separate and estimate the lactose and casein, the liquid first drawn off is diluted with distilled water to 100 cubic centimetres, and ten drops of acetic acid are added. The casein then separates in a flocculent precipitate, like that of nitrate of silver. After allowing it to stand for five minutes, it is poured upon a dry filter, which is kept covered to prevent evaporation. Thus 94 to 96 per cent. is collected of a liquid which contains only the salts of the milk, acetate of soda formed during the process, and lactose. The latter is then estimated by means of Fehling's solution. If a known volume is then evaporated to dryness, the amount of lactose can also be distinguished by two weighings, one before, the other after, incineration, deducting from the weight thus obtained that of the acetic acid combined with the soda. This casein is washed two or three times with distilled water, and the filtering paper containing it is strongly pressed between two layers of paper to flatten it as much as possible, and it can then be dried in a few minutes. The weight of the filter before and after the operation gives that of the casein. Or the casein may be detached from the filter, dried, and weighed. These operations are easily executed in an hour and a half, and if at the beginning an additional ten cubic centimetres of milk is placed to evaporate with two drops of acetic acid, the amount of dry residue of water and of ashes may also be ascertained. Five cubic centimetres of milk will suffice for the analysis, and the apparatus is very portable.—*Lancet*, Sept. 7, 1878.

Materia Medica and Therapeutics.

The Diffusion of Salicylate of Soda.

The rapid diffusion through the system of salicylate of soda, which its action and rapid excretion suggest, has been confirmed experimentally by MM. CH. LIVON and J. BERNARD. In their investigations they have confirmed the conclusions of previous observers regarding the action of salicylate on the conscious sensibility; the production of tetanic contractions and convulsive movements, and disturbances of respiration and of the cardiac pulsations, due to the alteration of the reflex action of the medulla and cord. Their observations were, however, especially directed to the diffusion of salicylate in the economy, and the means by which it is eliminated. For the detection of the salicylate they have employed the perchloride of iron, which remains the most delicate reagent known. In the first experiment six grammes of salicylate of soda were injected into the stomach of a dog. The œsophagus was tied; two hours afterwards the salicylate was found in the saliva. In the second experiment ten grammes were injected into the stomach, and an hour afterwards the salicylate was found in the bile. In the third experiment three grammes of salicylate were injected into the femoral vein, and an hour later it was found in the bile. In a fourth experiment seven grammes were injected into the stomach, and four hours later the salicylate was found in the pancreatic juice. In a fifth, two centigrammes were injected under the skin of a guinea-pig, and one hour afterwards the salicylate was found in the milk. The method of detecting the substance was to heat the liquid with hydrochloric acid, and then shake it up with ether. Evaporation of the ether leaves a residue which gives, with perchloride of iron, the characteristic violet tint. The saliva, the bile, and the pancreatic juice were collected by means of fistulæ. The feces and urine also showed evidences of the salicylate. In all the experiments upon dogs it was found also that the cerebro-spinal fluid contained salicylate, even several hours after the administration of the drug. It is suggested that probably it is the presence of the drug in the fluid which bathes the central organs of the nervous system which accounts for its action upon them. By the injection of from two to ten centigrammes of salicylate through the occipito-atloidean ligament into the spinal canal, all the phenomena of salicylic poisoning were rapidly obtained. The precaution was taken first to withdraw an equal bulk of the cerebro-spinal liquid, so as to prevent any compression of the cord. For the sake of controlling the experiment, simple water was, in another experiment, injected in the same manner, with the effect, however, of causing only prostration, and not the tetanizing effects of the salicylate.—*Lancet*, Aug. 31, 1878.

The Assimilation of Quinia.

The relation of the amount of quinine eliminated by the urine to that taken by the mouth has been studied by M. PERSONNE, with the object of determining what proportion is destroyed in the economy. He concludes that about one-half of that taken in is destroyed. He found that all the quinine which is eliminated by the urine and soluble in acids can be transformed into neutral sulphate of quinine without appreciable residue; also that a resinous material if obtained, insoluble in acids and similar to that which is obtained during the extraction of the alkaloids of chinchona. Hence it is inferred that the quinine which is eliminated by the urine has not undergone any appreciable alteration or isomeric modification. These substances represent nearly one-half of the quinine which is taken in, and hence at least one-half must be destroyed in the economy.—*Lancet*, Sept. 7, 1878.

The Preparation of Fats and Oils for Absorption.

An explanation of the mode in which the absorption of fatty substances is effected from the alimentary canal has always been a subject of considerable difficulty both to the physicist and to the physiologist. Formerly the only preparation to which the oleaginous constituents of our food were supposed to be subjected was their liquefaction and minute subdivision, effected partly by the warmth and partly by the triturating movements of the stomach. An important step in advance was made by Wistinghausen, when he observed that oily substances rose higher in capillary tubes which had previously been moistened with an alkaline fluid than when pure, and applied this observation in explanation of the influence of the bile on the absorption of oily substances, noticing further that such oily fluids could be more readily pressed through membranes moistened with a solution of the biliary salts than under their ordinary condition.

Still more recently E. v. Bruecke has shown that the formation of an emulsion, when oil is mingled with dilute albumen, with fresh ox-gall still containing mucus, or with a dilute solution of borax or sodium carbonate, is much more easily and completely effected if, instead of being perfectly pure, the oil is slightly rancid—that is to say, has undergone partial decomposition into the fatty acids. Pure and neutral oil, he remarked, shaken up with either of these fluids forms proportionately large drops, which quickly re-unite, but if they be mingled with the fatty acids, a white and permanent milk is at once formed. Bruecke further demonstrated that sodium carbonate has little action in emulsifying fats if free acids be present; they combine with a part of the soda to form a soap, and the emulsification is then easily effected. The same thing can be shown in another way by adding a small quantity of a solution of soap to pure oil, when a persistent emulsion can be quickly made. An interesting paper has just been published by J. Gad in His and Braune's *Archiv fur Anatomie*, in which he gives the results of his observation on this point, and essentially confirms Bruecke's statements. He points out that the mere contact of rancid oil with an alkaline solution is attended by violent commotion at the time of junction of the two fluids, which leads to the spontaneous formation of an emulsion without any mechanical agitation being resorted to. If a drop of oil be thus placed in contact with an alkaline solution it soon begins to exhibit amœboid movements, sending out processess which, after giving off a white milk from their borders, are again drawn in, some small droplets often remaining detached, the original drop after a time resuming its original circular form. If the separated droplets be isolated in another fresh portion of the soapy fluid no new movements are observed. The experiments prove that fats only form a good emulsion so long as they contain free fatty acids, and these become exhausted in the emulsifying process. The oils experimented on by Gad, all of which have yielded similar results, have been olive, almond, castor, neat's-foot, and liver. He finds that the emulsifying capacity of the several oils with a given fluid differs in accordance with the degree of their acidity, with the solubility of the soap formed in the fluid, and with the viscidity of the fat; whilst the emulsifying power of the same oil with different fluids depends partly on the grade of alkalescence of this fluid, and partly on its power of dissolving the soaps that are formed. The excellence and completeness of the emulsion occur under those conditions in which the formation of membranes can be just no longer discerned, for under conditions which are favourable to the solution of the soaps that are formed no emulsification occurs at all, whilst under those that are favourable to the formation of firm membrane the resulting emulsion is less perfect, and is rendered impure by the presence of particles of soap. Common salt and bile, he

finds, supply conditions that favour emulsification, and correct opposing influences.

If we attempt to apply some of these observations to physiology, it will be seen that, when fats and oils are taken into the stomach, the warmth and moisture to which they are there subject are conditions favourable to the occurrence, in some degree, of decomposition and slight acidification—a fact that is supported by the statement occasionally advanced that the acid of the gastric juice is butyric acid. The high acidity of the fluids secreted by the stomach, however, prevents emulsification taking place to any great extent in this cavity. This acidity is corrected by the alkaline salts of the bile; and thenceforward, in their passage through the alimentary canal, the minutely subdivided fats and oils are continually exposed to fresh quantities of alkaline fluids, by which their emulsification is effected and maintained.

Seeing, then, that a slightly acid condition of fats is a preliminary condition to their absorption, the question put by Bruecke, Why do we not consume fats in a rancid condition? is a very pertinent one; and the reply given by Gad is, first, that cod-liver oil, which, though certainly not taken *con gusto* by most people, yet is not, after a time, distasteful, and undoubtedly possesses highly nutritive properties, has a well-marked acid reaction. Secondly, that fats the acids of which form soaps that are soluble with difficulty, like those in ordinary use, give the best emulsions when only very feebly acidified. Thirdly, that, urged by a natural impulse, we consume fat almost always in combination with more or less common salt, which promotes the emulsification of feebly acid oil when mingled with dilute solution of soda. Lastly, it may be observed that that part of the canal into which the pancreatic fluid flows, which Bruecke has shown to possess so powerful an influence in disintegrating fats, is specially favourable to the act of their emulsification, the fatty acids that are thus formed combining with the alkaline fluids poured forth by the intestine, and greatly aiding the process.—*Lancet*, Sept. 28, 1878.

Mode of Action of Cathartics.

L. BRIGER (*Archiv für Exper. Pathol. und Pharmak*, Bd. viii. p. 355), at the instance of Professor Cohnheim, made some experiments to determine the mode of action of cathartics, which are abstracted in the *Clinic*. It was held, on the authority of Liebig, that the artificial increase of the alvine evacuations is chiefly due to endosmosis; but the experiments of Thiry, Schiff, Aubert, Buchheim, and Radziejewski seemed to show that neither transudation nor secretion is increased, and that acceleration of the peristaltic movements by which the fluid contents of the intestines are so rapidly carried forward that absorption cannot take place, is the sole effect produced by cathartics. Moreau, however, from his experiments, came to the conclusion that secretion is increased. Lately, Lauder Brunton (*Practitioner*, 1874, Nos. 71 and 72) again called attention to the method of Moreau, which is as simple as it is exact. L. Briger pursued the same method in his experiments, which were performed on large, strong dogs. After fasting from two to three days, in order that the intestinal canal might be as empty as possible, the animal was narcotized with morphia; then the abdominal cavity was opened and a loop of intestine as long as possible was withdrawn. This was tied at each extremity, and after two punctures had been made, one near each ligature, the loop was thoroughly cleansed by the injection of warm water. After closing the punctures with sutures, the loop was divided into three parts of equal length by ligatures thrown around the serous covering. The middle part was not used, but served as a means of comparison with the other parts

into which cathartics were slowly injected with a Pravaz syringe. The whole procedure rarely required more than ten minutes, and after it was finished the animals were unfastened, left under the influence of morphia, and, after about four and a half hours, were killed with chloroform or a blow on the head. Five *grammes* of a half per cent. solution of sulphate of magnesium were injected into one loop, and the same quantity of a one per cent. solution into the other. Both loops were found empty, the mucous membrane pale but normal. These very dilute solutions were simply absorbed. After the injection of a twenty per cent. solution of sulphate of magnesium, the loops were always completely filled with a thin, light yellow alkaline fluid, in which were suspended mucous shreds. These shreds were dissolved by caustic soda, but, if acetic acid were added in excess, a flocculent precipitate was thrown down. Treated with boiled starch or cane sugar, the fluid yielded in an hour and a half, at the ordinary temperature, tested by Trommer's method, evidence of the presence of glucose. Without any further addition, it showed, after boiling with a solution of potassa and sulphate of copper, the violet discoloration which was described of the intestinal juice obtained through fistulæ by Thiry and Quincke. Raw fibrin was dissolved in twelve hours at a high temperature; but boiled fibrin and ovalbumen were not changed. On microscopic examination, no red blood-corpuscles were found, but it contained many mucus-corpuscles, peculiar elements marked with vacuoles and intestinal epithelium. After the injection of two *grammes* of a fifty per cent. solution, there was found in the loop 23.5 *grammes* of a fluid having the properties described above, and a specific gravity of 1025 to 1030. Numerous other experiments were attended by similar results. *Drastics.*—Half a drop of croton-oil, dissolved in 2.25 *grammes* of ether, produced in the intestine 18 *grammes* of bloody fluid. In two other cases, when dissolved in 0.5 *gramme* of olive-oil, it produced respectively 10 and 11 *grammes* of bloody fluid. Extract of colocynth, injected with 2 *grammes* of water, acted as follows in the doses specified: 0.02 *gramme*, no accumulation, intestine empty, contracted, and slightly reddened; 0.04 to 0 10 *gramme* bloody fluid, mucous membrane totally inflamed; 0.05 to 0.1 *gramme*, completely filled with bloody contents; mucous membrane presents diphtheritic inflammation. In all the cases, the contents of the intestine responded to the saccharine test, and rapidly dissolved flakes of fibrin. Examined with the microscope, they presented in great abundance red and white blood-corpuscles, much epithelium, mucus, and shred of fibrin. *Laxatives.*—The substances used were the following: calomel, senna, rhubarb, aloes, gamboge, and castor-oil. The dogs were killed at various intervals, after 4½, 5, 7, and 16 hours. Without exception, the loops of intestine were found empty, firmly contracted, and not in the least inflamed, and the injected substance was spread over the whole surface. Substances acting mechanically only, as shot and pledgets of cotton, produced no effects. The aqueous constituents of the injected fluids were completely absorbed during the time of the experiments; thus, of fifteen *grammes* of compound infusion of senna, there remained only a semi-solid mass; but the castor-oil was found undiminished. Cinnabar, which was intimately mixed with castor-oil in two cases, was found neither in the lacteals passing from the intestine, nor in the adjacent lymphatic glands or thoracic duct. In regard to the laxatives, it would seem that their action depends upon an increase of peristaltic movements, for the loops were found contracted and coated with the medicine. The energetic movements of the intestinal wall had spread them in all directions. According to the results obtained, it cannot be doubted that the neutral salts strongly attract water and increase secretion. The drastics, in small doses, may be compared with the laxatives; but in large doses they produce inflammatory exudation and hypersecretion. In regard to both the neutral salts and the drastics, the properties of

the intestinal contents, show that in all cases there is not merely transudation, which augments the water in the intestines, but actual increase of the action of the intestinal glands.—*British Med. Journal*, July 27, 1878.

—

Action of Iodoform.

Dr. SIGMUND, of Vienna (*Deutsche Med. Wochenschr.*, Aug. 10), has used iodoform with very successful results in ulcerative and indurative processes, glandular swellings, rhagades, and gummata. He employed the following formulæ: Iodoform and spirit, each one part, glycerine 5 parts; or 1 part of iodoform in 3 or 4 of sugar; or 1 of iodoform in 5 of vaseline; or iodoform collodion (1 in 10 or 1 in 15). The pain was unimportant; the surface of the sores became clean in from twenty-four to forty-eight hours, and granulated favourably. The offensive smell of diphtheritic and cancerous ulcerations was entirely removed by the remedy. Dry iodoform in powder, applied to fresh wounds, forms an uniform firmly adherent paste.—*British Med. Journal*, Sept. 28, 1878.

—

Therapeutic Uses of Peruvian Balsam.

Dr. E. WISS (*Deutsche Zeitschrift für prakt. Medicin*, Aug. 24) gives this remedy internally according to the following formula. ℞. Peruvian balsam 2 drachms; mucilage of gum arabic half a drachm; the yolk of one egg; distilled water 52½ drachms; syrup of cinnamon 7½ drachms. For wounds and ulcers, he uses the balsam undiluted, pouring it into the wound and then applying compresses soaked in it. For recent wounds, one daily dressing is sufficient: for ulcers, the dressing must be renewed once or twice daily, according to the amount of suppuration. Dr. Wiss calls attention to three special properties of the balsam; it relieves pain, assists healing, and is antiseptic. Repair takes place without suppuration or inflammation; and there is no contraction of the cicatrix. He has given it internally with good result in cases of chronic bronchitis, to which he has been called on account of the appearance of severe dyspnœa, from a renewal of the subacute affection of the bronchial mucous membrane or from obstruction of the bronchi with mucus. In these cases, his first proceeding has been to remove the dyspnœa by an emetic. He has then given balsam of copaiba, which has improved the character of the sputa, but has not reduced their quantity nor relieved the cough. Under the use of Peruvian balsam, however, all the symptoms of bronchial catarrh have disappeared, including even cough of several years' duration. He gives it only in cases of pure chronic bronchitis, not having found it useful in tuberculous cases. He considers it desirable that a more extensive trial should be made of it in hospital practice, in the treatment of large wounds, such as those produced in amputation and in the opening of large abscesses. In many cases where Lister's apparatus is not always at hand—in war, in travelling, and in country practice—Peruvian balsam will be a valuable substitute.—*British Med. Journal*, Sept. 28, 1878.

—

Chloral as an Anæsthetic for Children.

Dr. BOUCHUT, in a paper in the *Gazette des Hopitaux* (August 13), states that since he first announced, in 1869, the anæsthetic properties of chloral in the surgery of childhood, and its value in bad cases of chorea, daily experience has confirmed the accuracy of his affirmation. More than 10,000 cases now testify to this, as for the last nine years from four to eight patients have taken this medicine in anæsthetic doses. Perhaps the same good effects might be obtained also in adults, but it is found that they cannot be got to swallow a sufficient dose with-

out producing vomiting. Infants, however, take the chloral in sufficient doses readily, and do not eject it. According to age, from one to four grammes are given, not exceeding three grammes, however, in children under three years of age, and two grammes may be given between two and five years without danger. The whole quantity is to be given at a single dose in 100 grammes of a highly sweetened vehicle. Half an hour after, the children are asleep; and an hour after, they are insensible. The insensibility lasts from three to six hours, and on awaking from it no disagreeable effects are experienced, the children taking their food and playing as usual. The same dose may be repeated the next and following days if required; and in chorea some children take these doses for a month together without inconvenience, as much as from 100 to 125 grammes having been taken in a month. Exceptionally, the anæsthesia is preceded by a stage of excitement, but so rarely that it has not been met with more than ten times in 10,000 cases. This means being so certain, and never being attended or followed by any accident, Dr. Bouchut always employs it for all operations on children, however trivial, the only inconvenience being that they continue to sleep three or four hours afterwards. These results are of great importance when it is remembered what difficulty and resistance are met with during operations on children. If there were any danger attending the use of this means, its employment in such cases should never be thought of; but there is absolutely none. The anæsthetic effect may also be produced by administering the same dose as an enema; but as this may be ejected, and the anæsthetic effect not be produced, it is better to use the chloral as a suppository, made with the *baume de cacoa* melted with a fourth of spermaceti, which is essential to the incorporation of the chloral. This, however, is a bad mode of administration if the chloral has to be continued for a long time, as after three or four introductions the mucous membrane of the rectum becomes irritated, and a painful tenesmus is produced. But, after even long administration by the mouth, no gastro-enteritis is produced in children, no loss of appetite, foul tongue, or pain, etc.—a tolerance taking place in them which is not observed in the adult.—*Med. Times and Gaz.*, Sep. 7, 1878.

Chlorhydrate of Pilocarpine in Ophthalmic Practice.

Dr. ALEXANDROFF states (*Pamphlet*, Marseilles, 1877) that Jaborandi for various reasons is not well adapted for administration; it has a disagreeable taste, it sits uneasily on the stomach, causing nausea, vomiting, and sometimes colic; it produces vertigo and fainting, and lastly it has the disadvantage of being inconstant in its action. Pilocarpine the active principle of Jaborandi—discovered by Hardy in 1875—is free from some of these inconveniences, and its action has been studied on patients affected with rheumatism, albuminous nephritis, and pleurisy; but until his own observations, no attempts had been made, M. Alexandroff states, to ascertain its physiological value in diseases of the eye, except those of M. Wecker, who treated a few cases by hypodermic injection of the chlorhydrate. M. Alexandroff determined to investigate its action, and tried it first in a case of rheumatismal irido-choroiditis. The case was sufficiently severe to induce M. Metaxas to recommend iridectomy, to which the patient refused to submit. About 2 centigrammes of the chlorhydrate of pilocarpine in solution in water was, with M. Melaxas's permission, injected by M. Alexandroff into the arm of the patient, atropine being at the same time instilled into the eye. The patient passed a better night and was free from pain; on the following day the injection was repeated, and again at intervals on five occasions. Under this treatment the media became clear, the ulcer which had been present healed, and vision was completely restored. M. Melaxas tried the chlorhydrate again in a

second case of double rheumatic iritis with equal success, and it was afterwards tried not only in many cases of rheumatic iritis, but in retinal hemorrhage, and in exudative choroiditis with good effect. In all instances salivation and sweating appear to have been produced, diarrhœa was occasionally observed. Epiphora was constant. The pulse and temperature rose immediately after the injection. He thinks it has an indisputable action on the iris, and finds that it acts more rapidly than eserine. It is at once the antagonist and antidote to atropine. It occasionally produces severe præcordial pain and feeling of anxiety. He thinks it will prove valuable, not only in cases of rheumatic iritis, but in all cases when the area of the pupil, the choroid, and the retina are the seats of serous or plastic exudation either from local or general disease.—*Practitioner*, September, 1878.

—

Belladonna in Infantile Diseases.

In a clinical lecture (*Le Progrès Medicale*, June 8) delivered at the Hopital des Enfants Malades, M. JULES SIMON gave the following summary of the physiological action of belladonna. In some respects the action of belladonna is opposed to that of opium. Applied locally to a blistered surface of the skin, or to the mucous membranes, belladonna is irritating, as is shown by the action of a strong solution of atropine on the conjunctiva. Hence it has been placed amongst the acro-narcotics. In small doses, by its action on the pharyngeal mucous membrane, it produces dryness, inability to speak clearly, and dysphagia, and in large doses it causes nausea, vomiting, and diarrhœa. At first the pulse is rendered slower and harder, but with a higher degree of action the pulse becomes full, strong, and frequent; the temperature rises a little; there is redness of the face, and brightness of the eyes, with mydriasis. The respiratory movements are rendered more active, and the bronchial secretion is diminished; hence its utility in humid asthma. In very large doses the respiration becomes gasping and convulsive. It is eliminated rapidly by the kidneys, and augments the urinary secretion. It diminishes the secretion of the sweat, and sometimes produces incomplete cutaneous anæsthesia. Its action on the skin in producing a scarlatiniform eruption, chiefly affecting the face, is well known, the exanthema disappears after a few hours without desquamation. Speaking generally, it appears at first to excite the vaso-constrictors, in consequence of which there is diminution of the secretions, retinal and cutaneous anæsthesia, and in part, perhaps, dilatation of the pupil. The blood-pressure and the urinary secretion are augmented. In large doses the vaso-motor nerves are paralyzed, and insomnia, agitation, and delirium occur. M. Simon frequently prescribes it with success in whooping-cough and other nervous diseases.—*Practitioner*, September, 1878.

—

Metalloscopy.

The announcement that anæsthesia could be temporarily removed by applying pieces of metal to the affected skin was received with considerable distrust last year, both in this country and in Germany; yet, after all, it turns out to be perfectly true. It may be remembered that we owe the discovery of this fact to a French physician named Burq, who also asserted that every patient has a particular idiosyncrasy for the action of a particular metal, and that there is a relation between the sensibility of the skin and the general condition of the patient, of such a nature that the latter can be cured by the internal administration of the same metal which cures the anæsthesia when applied to the skin. At Burq's request these statements were tested by a Commission appointed by the Société de Biologie in the winter of 1876–77. The members of the Commission were Drs. Charcot, Luys, and Dumontpallier, and their report, which was presented

to the Société de Biologie on April 14, 1877, and which was founded on experiments made in Professor Charcot's wards at the Salpétrière Hospital, not only in the main confirmed Burq's assertions, but supplied new facts bearing on the subject. Still more recently, Professor Westphal, of Berlin, in a lecture given before the Berlin Medical Society on June 5, 1878 (*Berliner Klin. Wochenschrift*, No. 30, 1878), after a personal visit to Professor Charcot's wards, has declared his belief in the reality of the phenomena described, and has supplemented the experiments of the Commission by some new and interesting ones of his own. Before speaking of the established facts concerning metalloscopy, we must mention expressly that the class of cases to which the treatment—if such it can be called—by metal plates applies, are almost exclusively hysterical women with anæsthesia of one half of the body sharply limited at the middle line (hemianæsthesia), which has come on either without apparent cause, or as the result of hysterical attacks. At the same time there is diminished functional activity of all the organs of sense, the acuteness of hearing, tasting, and smelling, and the power of distinguishing between certain colours being either deadened or entirely lost on the affected side. There may also be loss of the muscular sense on the same side, so that the patient has to hunt about, so to speak, with the healthy hand for the arm of the anæsthetic side, if the latter be placed in any position of which she had no previous knowledge. Now, the Commission found that if a metal plate were brought into close contact with a part of the anæsthetic skin, in from ten to twenty minutes the latter, and a greater or less area of skin outside it, recovered its sensation. In some cases, if the metal was allowed to remain long enough, the whole anæsthetic half of the body sometimes recovered its sensibility; while in others the impaired colour-sense was restored by applying metal plates to the forehead and temples of the affected side. The anæsthesia could also be removed by placing the poles of a powerful horseshoe magnet on the skin; and even in one case by allowing the hand of the patient to remain between the poles of a very powerful electro-magnet without touching them. In all these experiments it was discovered by the Commission that a transfer of sensibility took place from the healthy to the anæsthetic side of the body, so that what was anæsthetic before recovered its sensibility, and what was sensible before became anæsthetic. All these facts are confirmed by Professor Westphal. The Commission also observed that a prick made into anæsthetic skin bled very little, if at all, while the blood issued freely when its sensibility was restored. It also affirmed that the muscular power of the anæsthetic limb was increased on the restoration of sensibility to the skin, while, at the same time, the opposite healthy limb became correspondingly weaker. The Commission did not examine the internal action of metals in these cases, but it endeavoured to explain the effects produced by external metallic plates by the development of galvanic currents. In conjunction with Dr. Regnard, the Commissioners found that such currents were actually produced and could be detected by a very delicate galvanometer; that different metals produced currents of different intensities; and, lastly, that extremely weak galvanic currents could be substituted for the application of the metal plates, so as to restore the sensibility of anæsthetic skin. Still more interesting, however, is the observation that while the current which made the galvanometer-needle deviate 7° had no effect on the anæsthesia, a current of 35° restored the sensibility; and that while one of 60° had no effect, one of 90° was again effective. This proves that there exist for each patient strengths of current which produce definite effects, and other strengths—the so-called "neutral points"—which are inactive, no matter how long the electrodes are applied. Lastly, it was discovered that if one pole of an active current were applied to the head, and the other to the leg of the anæsthetic side, the sensibility

returned not only to the skin, but also to the organs of sense, and was lost over the whole of the previously healthy side.

In speaking of Professor Westphal's experiments, we need only refer to the new points which he made out, and pass over those parts of his lecture which merely relate to confirmatory repetitions of Charcot's experiments. Thus he found that the phenomena of transfer of sensation from the healthy to the diseased side of the body was not *always* to be detected; perhaps, as he explains it, because the patient was not examined at the right time. It was also found in one case that sensibility could be restored by the application of plates either of iron or gold, whereas the rule is that only one metal influences a particular patient. In another case a bar magnet was placed parallel to the anæsthetic arm, and fastened so that both its poles were in contact with the limb; and it appeared as the result of numerous trials that sensibility first returned and last disappeared in the region of the *south* pole. Experiments were also made with plates of copper varnished or coated with sealing-wax on the side applied to the skin, and also with bone counters such as are used with marking at cards, and in all cases there was a return of sensibility, at any rate in the parts pressed on by the plates and counters and by the gauze bandages by which they were very firmly fixed in position. In fact, "the presence of sensibility appeared," says Dr. Westphal, "to depend on the amount of pressure used in securing them." Some experiments made by Prof. Westphal's assistant (Dr. Adamkiewicz) with mustard plasters are also of interest, as bearing on the theory of action of the various agents used to restore sensibility to the skin. He found that after about two hours the skin which was reddened by the plaster became completely sensitive to pricks and other stimuli, and that by applying plasters to different portions of the anæsthetic skin, areæ could be produced, within which the patient, with her eyes shut, could accurately localize a stimulus; whereas, in the intervening space she could not feel the most severe irritants at all. It is important to notice that sensibility did not return if the anæsthetic hand were soaked in hot water until it was swollen and strongly reddened, and that the irritation of the electric brush was entirely without effect in restoring it. One other point may be referred to before leaving this part of the subject, viz., that Professor Westphal has confirmed in his own patients an observation of Charcot's, that pressure on a particular part of the abdomen of the anæsthetic side is very painful; but he doubts Charcot's explanation that the pain is due to pressure on the ovary.

The question now arises, Is there any deception in these cases on the part of the patients? To this Professor Westphal replies, Certainly not. One of these patients was pricked while in a deep sleep at night on an anæsthetic part of the skin without the slightest effect, whereas she woke immediately the healthy skin was pricked. Again, a number of patients only discovered that they were anæsthetic at all when they were examined after admission to the hospital, and the object with which the metal plates were used was carefully concealed from the first patients experimented on. No attempt at deception in other ways was observed in any of the patients during their stay in the hospital; and the peculiar distribution of the anæsthesia, which, it should be noted, is sometimes interrupted by small circumscribed islands of sensitive skin, is not at all favourable to the idea of simulation. Moreover, Professor Charcot and Dr. Magnan have both observed a return of sensibility in the hemianæsthesia of organic disease under metalloscopic treatment. On the whole, therefore, Professor Westphal confirms the results of the French experimenters, while it is clear that his own experiments are opposed to the exclusive explanation of such remarkable facts by a theory of galvanic currents. He supposes that the restoration of sensibility must depend on some kind of stimulation conveyed through the skin, but refuses to theorize on

the *modus agendi* of the stimuli, and whether they act directly on the ends of the sensory nerves, or by reflex dilatation of the bloodvessels, etc. He confesses his complete inability to explain the phenomenon of so-called "transfer" from the healthy to the anæsthetic side. It seems, indeed, useless to theorize on a subject about which our knowledge is still so elementary, and the only form of speculation which seems open to us is whether metalloscopy is ever likely to be of permanent therapeutic value. If the sensibility is withdrawn from one side of the body to be transferred to the other, this looks rather like "robbing Peter to pay Paul." However, the loss of sensibility of the healthy side appears to persist a shorter time than the gain of the anæsthetic side, and, as we have already stated, the "transfer" may not be detected at all. On the other hand, while in most cases the recovery of sensibility by the anæsthetic half of the body is only temporary, and disappears again in a few hours or days, there are cases in which a cure has lasted, at any rate, for several months, while in one case all the other hysterical symptoms were signally improved. This is about all that can be said at present as to the value of Burq's discovery.—*Med. Times and Gaz.*, Sept. 21, 1878.

Medicine.

Treatment of Anæmia and Cachexia by Assimilable Diastalized Remedies.

Dr. V. Baud observes (*Le Progrès Médicale*, July 6, 1878) that both iron and arsenic have long been employed in the treatment of anæmia, for their tonic and corroborant properties, whilst the alterative action exerted by iodine has led to its extensive use in diseases proceeding from a scrofulous diathesis. None of these agents are injurious if the doses be carefully prescribed, and their effects watched. As usually administered, however, they are given in what may be called the raw state, and it is doubtful how far they undergo absorption, and whether they may not sometimes do harm by disturbing the digestive functions. Impressed with these views, M. Baud set himself to discover a means by which the drug above mentioned could be combined with some organic substance in small doses, and thus be introduced into the economy in an easily digestible condition. His experiments have led him to employ what he terms diastalized remedies. The general principle of this method consists in combining the mineral substance intimately with a seed, and for this purpose the seed of one of the cruciferæ, the cress, is selected, first because it possesses remarkable germinating properties, and secondly because it possesses certain properties that render it specially adapted for the object in view. The seeds about to germinate contain diastase, and in the act of germination a physico-chemical action takes place which is comparable to animal digestion, every part of the seed is reduced to a pulpy state; the ferment developed, however, can by special arrangements be kept in a state of inertia, or quiescence, ready to act as soon as it is placed in favourable conditions. The proceeding he adopts is that the seeds of cress, which are rich in sulphur and phosphorous, are watered with solutions containing definite quantities of iron citrate, potassium iodide, or sodium arseniate. These solutions, far from interfering with germination, render that process more active, and the seeds come to be gradually and thoroughly impregnated with the mineral salt. They are then dried at a low temperature in a stove, and it then contains amylaceous and saccharine principles and diastase. It has lost neither the sulphur nor the phosphorus, but it has acquired new properties owing to the absorp-

tion of the special salt employed, the union of which with the proteinous compounds is rendered perfectly certain. It only remains to coat the seed, the form of which is well adapted for the purpose, with some material which will render it fitted for exhibition, and it will be found that a medicine is obtained the activity of which is rendered immediately apparent when the fluids of the stomach have dissolved the saccharine investment. The salt is thus introduced into the system in a partially digested state, rendering it easily assimilable, and hence a smaller dose is required. The diastalized citrate of iron may be prescribed in doses of 5–7 grains, and its acting is shown by the palpitation of the heart, which results from its use. Diastalized potassium iodide given in the same doses advantageously replaces cod-liver oil, for it is in combination with phosphorus and sulphur, which are contained in the oil, whilst the disagreeable flavour of the oil is escaped. Small doses of arsenic can be administered in the same way and have been found very effective, whilst they have no toxic action.—*Practitioner*, September, 1878.

—

The Treatment of Erysipelas by Carbolic Acid Injections.

This method, first suggested in 1874, by Professor HUETER, of Greifswald, has been tested and elaborated in his clinic with most excellent results. A summary of a paper by his son, Dr. HERMANN HUETER, in the *Berliner Klin. Wochenschrift*, Nos. 24, 25, 1878, will put our readers in possession of the latest particulars on the subject. We may premise that the strength of the carbolic acid solution injected is 3 per cent., prepared as follows:—Carbolic acid, spirits of wine, of each 1.5 grammes; distilled water, 50 grammes. A Pravaz's syringe is used, and the largest number of simultaneous injections in any one case has been twelve. It is found that one injection into an erysipelatous patch arrests the disease over an area the size of "half a card," by which we presume a visiting-card is meant. Beyond this area, there is scarcely any visible effect; hence, if the patch is very large, the danger of carbolic acid poisoning may be too great for the whole diseased surface to be injected. Dr. Hueter, therefore, lays the greatest stress on nipping erysipelas in the bud, by watching for its earliest symptoms; and the nurses and attendants in Professor Hueter's clinic are carefully instructed in its diagnosis, so as to call the surgeon's attention at once to rigors, nausea, vomiting, or any other change in the patient's state which may be the prelude to the rash itself. In this way a small area only, instead of a large one, has to be treated, and the surgeon is practically certain of being able to control the disease. Dr. Hueter's own observations lead him to conclude that the more severe the initial symptoms, the earlier the rash appears, and *vice versa*.

The cases in which erysipelas has been detected are treated as follows: Attention is first directed to the wound itself. If the surface is healthy and unaltered (which is unusual), it is merely thoroughly washed with 3 per cent. carbolic solution. If, however, it is in any part coated with a gray, perhaps still somewhat transparent film, or appears diphtheritic, or pulpy, the affected parts are removed by swabbing with 5 to 8 per cent. solution of chloride of zinc; and this is done in every case where the erysipelas starts from a hollow wound.

After this the erysipelatous skin itself is injected at various spots; and if detected early, two or three syringefuls of carbolic solution suffice. If the injection has to be repeated very often on the same patch, the canula is sometimes left in while the syringe is being refilled, and a second injection is made at the same place, trusting to the known great diffusive power of the carbolic acid. If the erysipelas is complicated with lymphangitis, and lymphadenitis, the red lines on

the skin and in the neighbourhood of the swollen glands are rubbed with unguentum hydrargyri, and sometimes the edges of the rash itself are thickly smeared with the same ointment.

Lastly, the wound and the reddened skin are wrapped up in a dressing of wet carbolic wool, which is changed two or three times daily until all redness has disappeared. The wound is then antiseptically treated.

The results of this system are most satisfactory. The erysipelas loses its spreading character after the first injections, and in mild cases is, so to speak, destroyed. Severer cases require a second or third series of injections to prevent the skin re-reddening after it has become pale.

Dr. Hueter gives the short details of the seventeen cases of erysipelas treated in the Greifswald surgical clinic, from May, 1877, to April, 1878. The average duration of each case was two days and a quarter (the longest lasted ten days), and there were no deaths; only one case—the longest—was a complicated one, of a phlegmonous character, with subcutaneous sloughing, not, however, due to the injection. Carbolic acid poisoning only once occurred, and was limited to discoloration of the urine, the patient's general state being unaffected. The advantages of the method of using carbolic acid injections as at present carried out are clearly seen by contrasting the results of the year 1876, when the method was in its infancy, with those of 1877–78. In the former year there were thirty cases treated (and even this number was a great reduction on former years), fourteen recovered without complication, and sixteen were severe cases, of which four died. The average duration of each was six days and nine-tenths.

In conclusion Dr. Hueter points out that any reduction in the number and duration of cases of erysipelas in a hospital is a distinct gain for the other patients, who thus run less chance of infection than they would otherwise do. A short case of erysipelas is less likely to lead to the dissemination of "germs," and to their lurking in corners and crevices to spread the disease at some future time, than a long one.—*Med. Times and Gazette*, Sept. 7, 1878.

—

Nitrite of Amyl in Ague.

Dr. W. E. SAUNDERS, of Indore, calls attention (*Indian Med. Gazette*, No. 39) to the value of nitrite of amyl in ague, and records a number of cases in which advantage has been derived from its use. The drug itself, he remarks, is inexpensive and goes a long way. He now uses nitrite of amyl mixed with an equal part of oil of coriander, to render it less volatile, and at the same time to cover its odour. He regards it as the most powerful diaphoretic he has seen, and he uses it in all cases of fever to produce diaphoresis. The following is one of his cases: Mr. T. C. came for treatment about 7 P. M. in the cold stage of ague. Two minims of nitrite of amyl were administered; sweating came on in seven minutes. He lay down for half an hour to get cool, and then walked home well. He next morning took a dose of quinine, and has had but one attack of fever without the cold stage since. Previous to this he had fever every day for one month, during which he took large doses of quinine. Dr. Saunders observes that he does not mean to say that quinine should not be used in these cases, for there is ample proof that it tends to check the return of the attacks, and removes to some extent the septic condition of the blood induced by the malarial poison, and this more especially if small doses of opium be combined with it. In no case did the amyl fail to remove the attack in about one-third the usual time, and in most cases the fever did not return. The method of administration he adopts is this: Four drops of the mixture or two drops of amyl are poured on a small piece of lint, which is given into the hands of the patient, and he is told to inhale it freely.

He soon becomes flushed, and both his pulse and respiration are much accelerated, and when he feels warm all over the inhalation is discontinued, as the symptoms continue to increase for some time afterwards. A profuse perspiration now sets in, which speedily ends the attack; in some cases, however, the cold stage merely passed of without any hot or sweating stage.—*Practitioner*, September, 1878.

The Origin and Spread of Yellow Fever and the means of Preventing it.

In an admirable paper on this subject (*Maryland Med. Journ.* Oct. 1878), Dr. N. S. DAVIS, of Chicago, presented the following conclusions concerning the conditions and laws governing the origin and spread of yellow fever, which are fully sustained by the facts observed during the present and all preceding epidemics:—

1st. The essential cause of the disease, whether animal, vegetable, or chemical, depends for its development and propagation or spread, on conditions of a strictly local character found co-existing only within certain geographical limits.

2d. The most important of the necessary co-existing conditions so far as ascertained, are, continuous high temperature, excess of atmospheric moisture; the presence in the atmosphere of the products of vegetable or animal decomposition; and such geographical position in relation to latitude and altitude as to secure a great predominance of the warm over the cold season of the year. The absence of any one of the first three conditions here named positively prevents the development or spread of the disease. That part of the northwestern coast of Africa bordering on the Atlantic, and the Mediterranean, and the West India Islands where these conditions always co-exist in a prominent degree, the disease is indigenous or endemic, prevailing more or less during the warm season of almost every year. While within certain limits both north and south of the regions just named the cause of the disease may be, either developed locally or imported from other places and spread, whenever a season occurs in which the essential conditions co-exist in an unusual degree.

3d. As all the known conditions essential to the development and spread of the disease, pertain to the atmosphere, it is plain that the essential cause must be developed in the atmosphere and not in the living human body. Consequently if such cause spreads or becomes transferable from one place to another, it is solely by atmospheric infection and not from personal contagion. And no amount of atmospheric infection by importation or otherwise can propagate the disease or its causes, in any locality where the atmosphere does not contain the required temperature and local impurities.

4th. The causes and conditions giving rise to the disease being exclusively of local atmospheric origin, are neither developed in nor evolved from the bodies of the sick; and hence the transferrence of any number of persons whether sick or well from infected places, to localities where the essential atmospheric conditions do not exist, never has and never can propagate the disease in the latter places.

Dr. Davis does not claim novelty for the foregoing propositions. On the contrary, he says, they vary but little from the conclusions drawn by nearly all writers who have given the subject an impartial investigation during the last twenty-five or thirty years. Yet, if true, they afford a basis for, or guide to, the adoption of sanitary measures of the highest value and efficiency, and entirely consistent with the principles of humanity, as well as the business interests of the country.

They clearly indicate that the first and most important of all the measures for preventing the development of yellow fever in any given place, either locally or

by importation, are such as will remove one or more of the conditions necessary for the production or spread of the disease. Of these conditions, the one most readily under human control, is the contamination of the atmosphere from local sources of vegetable and animal decomposition. It is well known that the chief sources of such decomposition are, imperfect and uncleanly sewers or cess-pools, foul and stagnant water; and low, moist ground rich in vegetable matter.

To remove these sources of atmospheric impurity early in each year, and keep them thoroughly removed until the close of the warm season, and thereby prevent the supply of local material on which the essential cause of yellow fever depends for its propagation, is the *only reliable* safeguard against the development of this disease in any place within the geographical range of its prevalence. If this is neglected until the atmosphere of any locality becomes filled with miasms as a pabulum for the fever poison, and the summer temperature prove continuously high, the disease will prevail and spread in defiance of all the inland quarantines that can be devised. But if a sufficient degree of cleanliness in regard to streets, alleys, gutters, sewers, and stagnant waters, to prevent the atmosphere from becoming filled with the products of decomposition and impurities, is accomplished early in the season and faithfully maintained until the frosts of autumn, there will be no danger of the prevalence of yellow fever, either by importation or otherwise. The point of vital importance is to *prevent* the development of the noxious material that constitutes the pabulum on which the essential cause of the disease feeds or out of which it originates. The mistake which is constantly being made by those having charge of sanitary matters in almost every locality, is the delay in executing the necessary measures of cleanliness, disinfection, and drainage, until so late in the season that the processes of fermentation, decomposition, and change in the local accumulations of moist organic matter, have already begun and impregnated the atmosphere with their poisonous products.

The second series of preventive measures of great importance are suggested by the third and fourth propositions stated above, and are as follows:—

1st. The municipal and health authorities of every important city or town on the coast of the gulf, from the Mexican boundary to Charleston on the Atlantic; on the Mississippi from New Orleans to St. Louis; on the Red River below Shreveport; on the Ohio below Pittsburg; and on the principal lines of railroad in immediate connection with such cities and towns, should deliberately select the nearest unoccupied, dry, elevated place, containing pure air and good water, and as readily accessible as possible, to which all families willing to go could be speedily removed from an infected street or section of a town or city, and accommodated in tents or other temporary structures until they could safely return to their homes.

Wherever this principle of speedy removal was acted upon by our army, it proved entirely successful in stopping the spread of the disease among the soldiers, and its imperfect and limited adoption at Memphis the present season has been of great value.

2d. The same principles apply to commerce and business. There is no positive evidence whatever, that the disease is ever transmitted by simple contact with the sick, nor by either articles of clothing or merchandise that have been freely exposed to the air outside of an infected locality. It is only when the *infected air* of the locality where the disease is prevailing, is shut up in the hold or apartments of a ship, boat, or car, or boxed up with goods in boxes or trunks, that it can be carried to distant places and retain its active properties. And even when so carried, it must be let out in an atmosphere in the new locality at the proper high temperature and containing the necessary local miasms or impurities, or it becomes utterly harmless. All that is necessary, therefore, is to have all

ships, boats, and cars carrying freight, stopped at suitable places outside of populous towns, inspected, all parts thoroughly ventilated and cleansed; and where goods had been packed in bales, boxes, or trunks, the same opened and aired before they are received by the parties to whom they are consigned.

—

Salicylic Acid in Yellow Fever.

The *Berliner Klin. Wochenschrift*, of September 2, publishes part of a letter written some time ago to Professor Heyden, of Dresden, by Dr. Hartwig Bünz, of Savannah, and which is of special interest at a time when yellow fever is raging as it is now in the Southern States of North America. Dr. Bünz was called in August, 1876, to an epidemic of yellow fever in Savannah, State of Georgia, and after trying the stock remedies of the country—emetics, purgatives, starving, etc. —without effect, and finding that the fever was of an intermittent type, he resolved to make an experiment with salicylic acid. He gave adults a dose of one drachm and a half, either in solution, in capsules, or rubbed up in sugar, and if the stomach rejected it he gave a double dose per rectum. The results were excellent. The temperature, which ordinarily ranged between 104° to 106° Fahr., fell to 100° or 100.5°, and in many cases to 99°, and the pulse from 120, or higher, almost to normal; and of 179 patients thus treated, of both sexes and all ages, *only four* died. Dr. Bünz made the observation that the patients treated with salicylic acid complained far less of pains in the spine and limbs than those treated with quinine, and he himself, when afterwards laid up with the fever, and taking a large dose of salicylic acid very early in the attack, cannot remember that he suffered from these pains. He regards the acid as the most powerful antipyretic against yellow fever, both of the intermittent and remittent type, but has no experience of it in the continuous form, over which, as is well known, quinine exerts very little, if any, influence.—*Med. Times and Gaz.*, Sept. 21, 1878.

—

Treatment of Sanguineous Cerebral Apoplexy by the Subcutaneous Injection of Ergotine.

In a short article on this subject (*Lancet*, Sept. 21, 1878) Mr. N. S. Foster says: The utility of the subcutaneous injection for the exhibition of the active principle of ergot on account of the rapidity and comparative certainty of its action has been most successfully demonstrated in cases of post-partum hemorrhage. From the explanation given of its inducing the contraction of the smaller arteries, and from the facility of its administration, especially in cases where swallowing is at least very difficult, I was led to use it in cases of cerebral apoplexy and also of hæmoptysis. It is for the former that I am enabled more especially to suggest its use, and from the results I have seen believe it worthy of a more extended trial in that form of disease.

Cerebral apoplexy proper, pathologically speaking, is essentially effusion of blood caused by a rupture, generally of the smaller arteries of the brain, whether of the punctiform or of the massive varieties—which, indeed, are more accurately degrees of the same condition. Perhaps the commonest kind of disease leading to this result is the formation of minute miliary aneurisms, their subsequent rupture, and thence the usual train of symptoms.

At present I can record only two cases in which I followed out the plan of treatment.

Case 1. I was sent for and informed that the patient, aged seventy-two, had been seized about a half an hour before my arrival. The ordinary apoplectic symptoms were present, and the coma gradually deepened during the application of the usual remedies. I then injected ergotine subcutaneously in the forearm.

The comatose state soon seemed to become stationary, and eventually the patient made a good recovery.

Case 2 was similar in most respects to No. 1; but in this patient, who was sixty-four years of age, I injected ergotine at once; and here the coma, which was only partial on my first seeing the patient, never increased in intensity, but soon passed off, and to all appearances he made a perfect recovery.

In both cases I satisfied myself of the absence of cardiac disease, and hence possibly of embolism; and from the history it was fair to conclude that effusion was the cause.

For the success of this treatment, both temporarily and permanently, a great deal depends on the promptitude of its administration, before much hemorrhage has taken place, and consequent damage to the cerebral substance. The strength of the injection I employ is ten grains of ergotine to the fluidrachm; injecting twelve minims deeply into the muscles, and not merely into the subcutaneous tissue, as in the latter case suppuration is very apt to ensue.

—

Aphasia in Children.

A. Schwarz relates in the *Deutches Archiv für klinische Medicin*, Band xx, the case of a normally developed little girl three years old, who, during convalescence from an attack of measles, was suddenly seized with loss of speech and paralysis of the extensor muscles of the right arm. The right leg was unaffected. After a few weeks, the paralysis improved, and the child learned to speak as if she had never spoken before. Considering the peculiarity of the manner in which speech was regained, Schwarz asks whether the right half of the brain did not gradually assume the functions of those of the left half, which had been impaired. Küssner reports (*Archiv fur Psychiatrie*, vol. viii) a case, observed in the polyclinic at Halle, of aphasia in a female child three years old, who, without any apparent external cause, suddenly became speechless. She heard and understood everything, could move her tongue and limbs freely, endeavoured to make herself understood by gestures, but could not speak. In a short time, some improvement took place spontaneously, and she quite recovered after the administration of an emetic. Küssner believes that the case was one of reflex aphasia, but leaves undecided the question of its origin.—*British Medical Journal*, Sept. 28, 1878.

—

The Pathology of Diphtheritic Paralysis.

The pathology, anatomy, and pathogenesis of this form of paralysis are not well understood. In a recent number of the *Journal des Connaissances Médicales*, an interesting summary is given of recent researches, chiefly of French authors. In 1862, MM. Charcot and Vulpian are stated to have published the first *post-mortem* examination in which significant lesions were met with. The muscular nerves of the velum palati presented remarkable alterations. Certain fibres were composed of tubes without any medullary matter; under the neurolemma, at intervals, were seen granular elliptical bodies with or without nuclei; other fibres were less changed. In 1869, Drs. Lorain and Lépine cited an analogous case. In 1867, Bühl met two with changes in the brain (extravasation of blood and peripheral softening) and a considerable injection of the anterior and posterior nerve-roots. He described diphtheritic infiltration by cellular or nucleolar bodies isolated or united by protoplasma; this infiltration was found also in the false membrane of the mucous surface and of the neurolemma. Later, Leyden described the changes characteristic of neuritis, and referred diphtheritic paralysis to an ascending neuritis. In 1876, Dr. Pierret observed in one case thickening of the spinal membranes, with traces of inflammation and a deposit of a layer of

false membranes. These lesions are inconstant, and have not been met with again. M. Déjerine (*Archives de Physiologie*, 1878), who had recently an opportunity of examining the nervous system of five patients who had died with diphtheritic paralysis, has found two kinds of almost constant lesions affecting the anterior roots and intramuscular nerves, as well as the gray substance of the spinal cord. The anterior roots present the changes which are met with in a nerve deprived of its trophic centre; the myeline becomes segmented, and consecutively the nuclei of the sheath proliferate, the protoplasm vegetates, and the cylinder-axis disappears. The traces of perineuritis and of meningitis are consecutive. In respect to the spinal cord, the lesions are the following. The nerve-cells in some cases become globular, are deprived of prolongation, or possess them only much shortened. The nuclei and nucleoli can scarcely be seen. Here and there some starved elements are observed, probably vestiges of pre-existing cells. The neuroglia is changed: the fibrils and nuclei are more numerous, especially at the level of the vessels and around the central canal at the commissure. In respect to the vessels, there is congestion with or without diapedesis, perhaps going on to hemorrhage; the lymphatic sheaths contain leucocytes, and sometimes small hemorrhagic foci. But it is important to remark that these lesions are limited to the gray substance of the anterior cornua; they are, moreover, inconstant, in the sense that death may occur rapidly after the commencement of paralysis. The anatomical examination is then negative. These lesions explain the motor troubles; but, as to the disturbance of sensation, no explanation has yet been found in any observed anatomical change. What is the nature and pathogenesis of these paralyses? Trousseau saw in them the effect of a poisoning. Gubler arranges them in two groups: on the one hand, paralysis by propagation by means of an anastomosis of the nerves which are in relation with the pharyngeal plexus (the eye, taste, hearing, tongue, fauces, muscles of inspiration, heart); on the other, the asthenic paralysis, paraplegia, etc. Dr. Brown-Séquard puts them among reflex paralyses produced by contraction of bloodvessels in the nerve-centres and in the motor nerves and muscles. As to the parasitic theory of Letzerich (capillary embolism due to the fungus of diphtheria), it has not found any supporter in France. M. Maque (*Des Paralyses Diphthéritiques*, 1878), from whom much of the preceding has been gathered, considering the changes in the blood, the possibility of the inoculation of diphtheria—in a word, its infectious character—thinks that these paralyses result from medullary lesions developed under the influence of the infectious character of the disease, and that they ought to take a position among the group of paralyses called infectious.—*British Med. Journal*, Sept. 28, 1878.

Cure of Epileptic Attacks after Removal of a Tumour of the Dura Mater.

In the *Annales dé la Société de Méd. de Gand.* 4, Livr. 1878, Dr. LADOS reports a case of a tanner, æt. 44 years, who fell down stairs and suffered a contusion of the skull from violent contact with a wall. There soon ensued a considerable extravasation and loss of consciousness lasting several hours. Although several days afterward he was able to work he experienced such severe pains and "stitches" in the head that he was several times constrained to seek medical advice. He was obliged to spend his nights out of bed because the fearful pain robbed him of rest. This miserable condition continued for several years until a soft, pedicellated tumour the size of a pigeon's egg formed upon the scalp at the point of the previous extravasation. There was felt an impulse isochronous with the pulse and in the neighbourhood of the pedicle an opening of the parietal bones. Since the formation of the tumour the patient had daily several epileptic attacks with loss of consciousness, pain in the teeth and convulsions of the whole

body, especially of the right leg. The tumour had its seat over the left sagital suture at the posterior upper angle of the corresponding parietal bone.

After consultation with other colleagues, who were of the opinion that it was connected with syphilitic disease, iodide of potassium was ordered. The flattened nose, as well as the view that the tumour was of the syphilitic gummatose variety warranted such treatment. This agent relieved the long-continued head pains, but the convulsions did not cease. Since the patient stubbornly affirmed that he never had syphilis and the epileptic convulsions still continued it was determined to remove the tumour. It was detached by means of a strong ligature, the pedicle cauterized with lunar caustic, and the wound cicatrized under simple cerate. With the cutting through of the tumour by means of a thread, a last epileptic attack of short duration occurred and no more convulsions recurred. Sometimes the patient yet feels an itching and twitching of the right leg as a reminder of the earlier convulsions. He works regularly, has increased in body weight and feels entirely well. He wears a piece of thick material over the cicatrix for protection, where there exists an opening the size of a half franc caused by necrosis of the parietal bones.

In consequence of the fall there was an inflammation of the dura mater and the corresponding portions of the corresponding parietal bones arose, causing a fungus of the dura mater breaking through the bones and inducing the violent pain and epileptic attacks.—*Cincinnati Lancet and Clinic*, Sept. 28, 1878, from *Allg. Med. Cent-Zeit.*, Aug. 1, 1878.

Contagious Pneumonia.

Dr. A. KÜHN (*Deutsches Archiv für Klin. Medicin*, Bd. xxxi.) has observed on several occasions the endemic occurrence of an asthenic form of pneumonia; it once occurred during overcrowding of the prison at Moringen in Hanover, and also after residence in new and damp apartments. As all the other conditions of the prisoners—soil, drainage, ventilation, drinking-water, clothing, and food—were favorable, the outbreak of the pneumonia could only be ascribed to deterioration of the air in the rooms. The malady was characterized by marked symptoms of infective disease, with much loss of strength, great enlargement of the spleen, albuminuria, and diarrhœa in two-thirds of the cases. The disease did not set in, like genuine croupous pneumonia, suddenly and with a single rigor; it was ushered in by premonitory symptoms lasting from four to eight days, generally without previous rigor, was attended with fever, and ran a very severe course. The engorgement of the lung was usually observed for the first time on the third or fourth day of the fever; it was often situated in the upper lobes, and showed much disposition to change its position. There was also very often inflammation of the serous membranes; in one-fourth of all the cases, pericarditis was present; severe pleuritis was constantly met with; and in five cases out of forty-five there was well-marked meningitis. The disease was also frequently accompanied from the first by angina and stomatitis, often going on to sloughing. The temperature rose to 107 deg. Fahr. and usually first showed distinct remissions from the fifth to the seventh day. On *post-mortem* examination, the muscular tissue of the heart was found either of a dark brown-red colour and fragile, or in a state of fatty degeneration; the spleen was enlarged even to three times its normal size; and the albuminuria arose from parenchymatous nephritis. Not unfrequently, also, there was swelling of the intestinal follicles. The disease was communicable. The attendants were infected, and the disease was indirectly communicated (through intermediate persons) to others who did not come into contact with the institution. Dr Kühn observed in one epidemic seventy cases, and in another eighty-three. Abortive forms were met with.—*Brit. Med. Journ.*, Sept. 7, 1878.

Acute Miliary Tuberculosis.

Few, if any, diseases are so desperately unmanageable as acute tuberculosis, yet for that very reason it demands to be studied in all its bearings with the greatest minuteness. Only in this way can we hope to learn how to prevent its outbreak or to check its progress. We are therefore deeply indebted to those observers who will take the subject up and work at it, even though they fail at present to provide us with a remedy for the malady, or to clear up many of its mysteries.

Dr. LITTEN, of Berlin, one of the rising young physicians of Germany, is the latest contributor to the literature of acute tuberculosis, and we have summarized in the remarks which follow the most salient points of his recent valuable lecture in *Volkmann's Sammlung Klinischer Vorträge* (No. 119).

In the first place, Litten points out that the theory that miliary tuberculosis *only* follows caseous resorption will scarcely stand, and that cases occur in which healthy individuals die of it without any detectable cause for the disease, either *intra vitam* or *post-mortem*. It is further interesting, that like the acute infectious diseases properly so called, miliary tuberculosis (and by this term the acute form with rapid course is here invariably meant) tends to vary in its frequency with the season, and at times to take on a sort of epidemic character. Thus Buhl states that at Munich he observed most cases in May, and none at all in July and August. Lebert, at Zurich, reckoned April and May as the months when the disease was most frequent, and Virchow, at Berlin, also speaks of the early summer months as the time when acute tuberculosis is *quasi*-epidemic.

The sexes are very unequally attacked, and of fifty cases observed by Professor Frerichs and Dr. Litten in the wards of the Charité Hospital at Berlin, forty-three, or 86 per cent., were males. The largest number of cases per decade (fourteen) occurred between thirty and forty years, and the next largest (ten) between twenty and thirty. The chief peculiarity of the disease in infants is the frequency with which the meninges are involved. In the course of tuberculosis affecting the diaphragm, the pericardium, and the meninges, peritonitis, pericarditis, and meningitis are not uncommon. The distribution of the tubercles in the different organs of the body varies extremely; but, while the pancreas scarcely ever suffers, it is rare for a case to be met with in which the lungs, liver, spleen, kidneys, bones, and choroid membranes are not affected.

Dr. Litten's statistics of fifty-two post-mortems, chiefly made by Virchow at the Berlin Pathological Institute, show that etiologically acute tuberculosis is associated more frequently with phthisical deposits and cavities in one or both lungs than with any other condition. This was true of twenty-eight out of the fifty-two cases. In three cases the tubercular eruption immediately followed the *rapid absorption of pleuritic effusions;* and Dr. Litten regards the hereditary predisposition, which was certainly present in two of them, as having been lighted up, so to speak, by the irritation (*Reiz*) caused by the removal of the pressure of the effusion from the vessels of the lung, and by the rapid re-expansion of the lung itself. With regard to the relative frequency with which the organs are affected with tubercle, it may be stated that the lungs are almost invariably attacked. In fifty-one cases out of fifty-two this occurred, and in thirty-six the pleuræ were also diseased. The lungs may be the only organ affected. In eleven out of the fifty-two cases there was serous pleurisy, and in two hemorrhagic effusion into the pleural cavity. The most interesting fact in connection with the digestive tract, apart from the occurrence of intestinal ulcers, is that of the existence in some cases (about 10 per cent.) of ulcers on the back of the tongue, with elevated edges, the seat of miliary tubercles. These ulcers

may, according to Litten, develop quite independently of any disease in the larynx, pharynx, or elsewhere in the neighbourhood of the mouth, and they sometimes run their course very rapidly. The mesentery was affected in six, and the omentum in ten cases; while the liver and spleen were always the seat of tubercle. The enlargement of the spleen—which sometimes is considerable, and which was present in 70 per cent. of the fifty-two cases—deserves notice for its diagnostic value. The kidneys are frequently tuberculous, and less often the prostate, supra-renal capsules, and bladder.

In one rapidly fatal case, which occurred on the third day after childbirth, tubercles were found in the mucous membrane of the uterus alone of all the organs, if we understand Dr. Litten aright. The pancreas and salivary glands were not affected in a single one of the fifty-two cases, nor were any of the muscles except those of the heart. Tubercles are not very rare in the septum ventriculorum and the muscular walls of the latter organ, and they are also found under the endocardium and pericardium. In the bones the tubercles occur in the marrow, without the existence of other disease, such as caries. Their favourite bones are, next to the long bones, the sternum, vertebræ, and ribs. They were present in the bones in 31 per cent. of Litten's cases, though more careful examination would probably have detected them still more frequently.

The most important fact, however, connected with the location of tubercles is their almost constant presence in the *choroid membrane* of the eye. They were found there in the fifty-two cases thirty-nine times; and their absence was specially noted, as far as the naked eye could judge, in the thirteen others. They are found varying in size from 0.4 to 5.0 millimetres diameter, and are not limited to any particular part of the choroid, though, if anything, most common quite posteriorly. As many as fifty-two have been counted in one eye. They become visible with the ophthalmoscope during life, when they have reached a certain size, owing to the atrophy of the pigmented epithelium over them as they bulge forward under the retina; and Von Graefe, who first observed choroidal tubercles in the living subject, stated that tubercles of less than 0.5 millimetre can be detected, especially if a retinal vessel crosses them. It is not necessary that there should be tubercles in the brain or its membranes because they are present in the choroid. In the thirty-nine cases of choroidal tubercle observed, this connection existed only in nineteen, or in less than half; and even where it exists, the appearance of choroidal tubercles may precede the development of cerebral symptoms by several days, or, *vice versâ*, appear later than the latter. Curiously enough, in thirty of the thirty-nine cases of choroidal tubercles, the *thyroid gland* was affected with a more or less extensive eruption of tubercles. That this must be an accidental coincidence, however, seems clear from the fact that in the remaining nine cases the thyroid gland was unaffected, while in nine other cases the thyroid was involved and the choroid not. The most frequent pathological conditions of the brain and its membranes associated with choroidal tubercles were simple tuberculosis of the pia mater, and tubercular meningitis. Tubercles are rare in the retina. The choroidal tubercles generally become visible late in the course of the disease; but they have been seen as early as eight weeks, and even as early as *four months* before death. They appear with the ophthalmoscope as yellowish-white roundish spots, which gradually shade off into the surrounding pigment. They are occasionally, when confluent, as large as the optic disk, but are generally much smaller. Their growth can be watched from day to day; and changes can be recognized in them in as short a period as twelve to twenty-four hours. Vision is scarcely ever impaired by them. Diagnostically their presence justifies an assertion of the existence of general miliary tuberculosis more conclusively than any other symptom.

Returning to tuberculosis of individual organs, we find 60 per cent. of the cases complicated with tubercle of the brain and its membranes, its most common situation being in the *pia mater*. Two points deserve especial attention in connection with the nervous system: (1) that tubercles may develop extensively in the membranes *without a trace of exudation;* and (2) that, on the other hand, there may be hydrocephalus present *without a trace of tubercle.*

The list of organs in which tubercles develop is now, with the occasional exception of the synovial membranes of the joints, the middle ear, etc., practically exhausted. The characteristic of acute tuberculosis is not that it attacks particular organs, but that it attacks *many* organs, and runs an acute course. Miliary tuberculosis may originate in the presence of any chronic disease, and should be especially noted that emphysema does not by any means exclude it, as Rokitansky supposed. This has been proved most conclusively by Wunderlich and Burkart, as well as by Litten's own observations. There is also an acute form of emphysema which is not uncommon at the edge of the lungs, and which is produced by the impediment to respiration set up by the tubercles embedded in the tissues of the lung.

We have not space to reproduce the picture of the clinical symptoms of miliary tuberculosis drawn by Dr. Litten. and can only refer to two or three of its details. Though miliary tuberculosis is generally accompanied with marked febrile symptoms, cases occur where the temperature *never*, throughout the whole course of the disease, reaches 39° C. The severe dyspnœa which is present in the majority of cases appears to be only partly explicable by the attendant bronchitis and fever, and is probably due to a direct stimulus exerted by the tubercles on the peripheral fibres of the vagus nerve, which is conducted from them to the respiratory centre in the medulla. The enlargement of the spleen has been already alluded to; and it should be added that it is painless, as a rule, in the absence of fresh perisplenitic inflammation. Owing, too, to there being, as a rule, no meteorism, the splenic tumour is more readily detected than in typhoid fever—a point of some diagnostic value. Lastly, we should remember that nervous symptoms in the course of acute tuberculosis may be simply due to the intensity of the fever, and to the abnormal nutrition of the brain with the infected blood, and not to actual disease of the nervous system.

The *diagnosis* of miliary tuberculosis must depend on a consideration of all the phenomena present, and not on any one symptom. Irregular fever, rising high from the outset, and accompanied early with bronchitis and cough, considerable increase of respiratory frequency, with cyanosis, rapid wasting and loss of strength, with perhaps an eruption of herpes on the lips, would favour the idea of its existence, especially in a person with old disease of the apices of the lungs. If no roseola appears at the end of the first week, and diarrhœa, meteorism, and ileo-cæcal tenderness are absent, the probabilities are still more in favour of acute tuberculosis; and still later, the absence of bedsore, so frequent in typhoid, would further strengthen the diagnosis. Dr. Litten calls attention to the occasional difficulty of distinguishing between diffuse bronchitis *in elderly persons with emphysema*, and miliary tuberculosis, at any rate at first. The chief difference between them consists in the abundance of the physical indications of catarrh (râles), and of the sputa, which is early met with in diffuse bronchitis. Miliary tuberculosis runs its course in two to eight weeks. The prognosis is almost absolutely fatal, and only when a case recovers in which choroidal tubercles have been observed with certainty *intra vitam* will it be possible to affirm that the disease is ever cured.

Therapeutic measures can only be directed, in our present hopeless state of ignorance, to reducing the fever and alleviating the bronchial catarrh.—*Med. Times and Gazette*, Sept. 28, 1878.

Acute Malignant Endocarditis and the Concomitant Retinal Changes.

Dr. M. LITTEN describes in the *Charité-Annalen* for 1878 six cases of endocarditis with bacterial embolism occurring in pregnant or lying-in women, and a seventh case in a lad aged 17, in whom a diphtheritic affection of the colon was probably the starting point of the disease. In three cases, the endocarditis was purely exudative, without any ulceration or destruction of tissue; and no bacteria could be found in the deposits in the valves. As, however, bacterial infarcts were present in other organs, and the malignant course of the disease differed in no respect from that of cases of ulcerative endocarditis, it appears that endocarditis is not absolutely necessary as a connecting link between the primary disease and the occurrence of bacterial infarcts. This view is supported by cases of puerperal septicæmic infection with abscesses containing bacteria in the kidneys, intestines, and muscular tissue of the heart, retinal hemorrhages, etc., in which the cardiac valves were found entirely free. It seems therefore justifiable to regard endocarditis as only a partial phenomenon of septic (puerperal, etc.) processes, the occurrence of which depends on various circumstances, such as anomalies of the vascular system, and especially of the valves. Retinal hemorrhages also occur in septic fevers without endocarditis, partly as solitary changes in the eye, partly as the sequel of severe purulent ophthalmia; in the latter case they arise from the embolism and the presence of parasitic material, while in the other case, Dr. Litten considers that they are not of embolic origin. Dr. Litten is disposed to attribute a diagnostic importance to retinal hemorrhages in the recognition of septic processes (as distinguished from typhus); and he regards their presence as a very unfavourable element in prognosis.—*British Med. Journal*, Sept. 7, 1878.

Cardiac Hypertrophy and Renal Disease.

The July number of Virchow's *Archiv* contains a paper by Professor SENATOR, of Berlin, upon the connection between cardiac hypertrophy and renal disease. The main novelty is, that he regards the cardiac hypertrophy of uncomplicated cirrhotic kidney as usually unaccompanied by dilatation; the latter being, according to him, most commonly associated with parenchymatous degeneration, primary or supervening on the cirrhotic process. This somewhat arbitrary statement, not supported by any new evidence, enables him to construct a double theory to account for the cardiac changes in renal disease. He considers them apart: first, the dilated and hypertrophied heart of parenchymatous nephritis; secondly, the concentrically hypertrophied heart of interstitial nephritis. The first he explains by adopting the hypothesis of Bright, that it is due to the difficulty met with by the left ventricle in driving the blood, overloaded with urinary excreta, through the capillaries. He appeals to the analyses of Bright, Christison, Bartels, and others, which prove that this state of the blood is present. Finally, thickening of the minute arterioles has not been found (Ewald) in simple parenchymatous nephritis.

In interstitial nephritis, on the other hand, he regards the thickening of the small vessels as the *cause* of the increased aortic tension; but he believes that the concentric hypertrophy often present is not due, and cannot be ascribed, to obstruction to the discharge of the ventricle, but is rather a concomitant of the renal disease, possibly due to some nervous influence, as in Graves's disease, possibly to some direct effect of the blood. He does not pretend to decide what the nature of the arterial change is, or by what it is determined; but he is convinced that "all hypotheses which have the kidney-affection for their starting-point are useless." A month later, the *Archives Générales de Médecine* contained an article by Dr. Hanot, already well known for his thesis on hypertrophic cirrhosis

of the liver, in which the same points are discussed. He says: "I have long observed that this hypertrophy frequently coincides with a notable decrease in the size of the ventricular cavity. I believed at first that this was purely a coincidence; but I resolved to examine the subject with more attention." As the result of this attention, he gives notes of two cases which he has had an opportunity of observing. This observation is not by any means new: Bamberger, long ago, and Gowers (in Reynolds's *System of Medicine*) have pointed out the same thing; Dr. Moore published a similar case in the *Dublin Medical Journal* about two years ago; but its bearing upon the various hypotheses now current does not seem to have attracted much attention. Hanot thinks it supports Johnson's view of muscular hypertrophy and tonic spasm, the condition of the heart being similar to that of the arterioles; Senator, on the other hand, regards it as of necessity idiopathic. We can scarcely admit this latter position, as it is not uncommon to find little or no dilatation in cases of aortic insufficiency in which no one doubts the deuteropathic nature of the change. Senator tries to avoid this by saying that Bamberger hinted that in such cases (of aortic insufficiency) room is gained by the left ventricle bulging in the right; and he suggests that this has not been shown to take place in the usual condition, but in both Hanot's cases this is specially described. We may object to Hanot's remark that there is all the difference in the world between the action of the cardiac muscles and those of the arterioles, and that, while every one may admit that a certain amount of muscular hypertrophy and tonic spasm may exist in some of the vessels, most careful measurements have shown that, as a rule, their lumina are rather larger than normal (Thoma), and the thickening of the coats is in great part due to the overgrowth of the intima and adventitia—a point not disputed by Johnson himself; so that there seems little analogy between the dynamic or static conditions of the heart and arterioles, unless we assume that the obstruction to the circulation exists in the capillary area, as has been proved for the kidney itself, in which case we have the whole aortic system under tolerably equal conditions of raised blood-pressure. Senator's conclusion that the changes in the arterioles mechanically explain the increased pressure is disproved by Thoma's observation, that these changes in the renal arterioles present no resistance to the passage of fluids. It is quite exceptionally that the endarteritis—for such we believe it to be—reaches a grade at which the lumen is actually diminished below that of a healthy vessel in the same situation. Professor Senator thinks he has successfully disposed of the theory that blood-contamination by urinary excreta is the groundwork of granular kidney, when he points the results of analysis as showing no actual diminution in the total daily quantity of urinary solids; but he forgets that, according to the view taken by a good many authorities, at least in this country, the primary vice is in the habits of the patient and the relations of the food and drink to the secondary digestive apparatus. In the first place, there are indiscretions of diet—too much alcohol, too much food, especially in this country too much animal food; in the second place, an inadequacy (congenital or acquired) on the part of the liver principally, and the organs concerned in the secondary digestion, to deal with the quantity of oxidizable material delivered to them: as a consequence, we have blood-contamination of an unknown nature (but presumably consisting partly of lithates), increased blood-pressure, and diuresis (Ustimowitsch and Grützner) when this shall have reached a maximum. This process, constantly repeating itself, would probably be followed by cardio-arterial changes, and in some cases by marked renal mischief, especially, we may be permitted to assume, in those in whom a predisposition existed.

It cannot be expected that lithuria should always produce renal degeneration, nor must it be supposed that thick urine is at all a good indication of the exist-

ence of lithæmia. As we have seen, the presence of lithates in the blood stimulates diuresis; and, unless the relative proportion of water to solids may be small, they will remain in solution. On the whole, copious urine is a much better indication, especially if it be highly acid.

Still more recently, the *Centralblatt für die Medicinische Wissenschaften* (Sept. 14) publishes an abstract of a paper by Dr. von Buhl, of Munich, upon the same points. He argues against the views of Gull and Sutton, especially urging the rarity with which any other organs but the kidneys take part in this supposed general degenerative process. Von Buhl thinks that the heart and kidneys simply become diseased together; he refers to the very large percentage of cases in which traces of inflammatory affections of the heart are found; he thinks that this endocarditis is followed by hypertrophy as a result of "overnutrition" and increased work. He draws attention to the new fact, that narrowing of the aorta sometimes is present. This and the cardiac hypertrophy account for the increased tension. Finally, he thinks that excessive muscular exertion, leading to myocarditis and hypertrophy of the heart, is a frequent cause of granular degeneration of the kidney. This is carrying back the dispute to a stage which, we thought, had very long been passed. Everybody admits the frequency of cardiac complications; but no one now doubts the existence of a large number of cases in which the state of the heart cannot be regarded as in any respect the result of inflammatory changes. We think that the narrowing of the aorta is a point upon which more information is needed. We have seen it, but cannot express any opinion as to its relative frequency; but we hope pathologists will attend to the point, and also to the state of the cavity of the left ventricle.—*British Med. Journal*, Sept. 28, 1878.

—

The Treatment of Diarrhœa by Oxide of Zinc.

Dr. JACQUIER has followed, in the service of Dr. Bonamy at Nantes, the good effects of the employment of oxide of zinc in diarrhœa. The formula which he has employed is the following: Oxide of zinc, 54 grains: bicarbonate of soda, 7½ grains; in four packets, one to be taken every six hours. In all the cases which he observed, oxide of zinc produced rapid cure of diarrhœa. In fourteen cases observed by Puygautier, the cure was even more rapid, since in only one case were three doses of the medicine required. The results are considered to have been more satisfactory, inasmuch as in several cases the malady had endured from one to many months, and other methods of treatment had not produced any improvement. Thus he concludes that, although by no means to be held as exclusive treatment, the employment of oxide of zinc deserves to be more generally known as useful in diarrhœa.—*British Med. Journal*, Sept. 28, 1878.

—

Complete Obstruction of Intestine by Croupous Inflammation.

Dr. E. MARKHAM SKERRITT, at the late meeting of the British Medical Association (*British Med. Journal*, Sept. 7, 1878) related this case, which was of much interest, both in connection with the question of the diagnosis of intestinal obstruction, and also on account of the probably unique pathological condition present. The patient, a young man aged 19, was admitted into the British General Hospital with a history of a week's illness, beginning with slight abdominal pain, vomiting, and diarrhœa, followed by constipation and persistent bilious vomiting. His expression indicated discomfort; the pulse was 80, large, and soft; the temperature was subnormal throughout. There was a thin moist white fur on the tongue; the abdomen was moderately distended; the muscles were rigid; there was very slight pain and tenderness over the lower part. An enema of three pints was given

without difficulty. Opium and hot fomentations were ordered. Two days later, the patient sank rather rapidly, and died. *Post-mortem*, the small intestine was inflamed throughout; a loop of the ilium just above the valve dipped down into the pelvis, dusky purplish-red in colour, much contracted, and feeling like a firm umbilical cord; it was entirely blocked up by a fibrinous cast adherent to the mucous coat. Ulceration and perforation of the vermiform appendix had occurred (adhesions preventing rupture into the peritoneal cavity), and there also croupous false membrane existed.—*Remarks:* 1. *The Obstruction.* Croupous inflammation of the intestine is not very rare. The special feature in this case is the complete plugging of the canal. Probably, there was the following sequence: first, ulceration of the appendix; then perforation, corresponding with the onset of acute symptoms; then inflammation extending and causing first diarrhœa, and then constipation from cessation of peristaltic action; this inflammation taking on the croupous type in the part nearest the appendix. 2. *The Diagnosis.* By a process of exclusion, enteritis not due to a removable cause was considered to exist; for, although there was scarcely any positive evidence in favour of this view, yet in the author's experience, it had been the exception for acute inflammatory affections of the abdomen to be accompanied by those severe symptoms usually described as characteristic of them.

—

Cercomonas Intestinalis in the Human Digestive Canal and its Relation to Diarrhœa.

Dr. E. ZUCKER describes in the *Deutsche Zeitschrift fur praktische Medicin* the results of observations carried on for several months in Professor Leyden's clinic, on the alvine evacuations of the patients. He found large masses of cercomonas in nine cases. These infusoria were observed in the intestine in cases of severe acute and chronic affections of other organs, or were found without other complications in cases of gastro-enteric inflammation. The animalcules are probably swallowed with water; they require for their development in the intestine certain conditions, such as disturbances of the normal digestive process, brought about by acute general disease or by injurious influences acting locally. In acute diseases, their influences on the processes which go on in the intestine is unimportant; but, if they meet with conditions favourable to their development, they produce diarrhœa of a mild or a severe type, sometimes febrile and simulating enteric fever. The aggravation of mild cases of diarrhœa under an increase of the cercomonas, and the obstinate continuance of chronic diarrhœa in two cases, and the improvement and cure which followed the disappearance of the animalcules, are proofs of their influence. The stools which contain the parasite are of a brown yellow colour, have a faint foul odour, are of a thin pulpy consistence, and usually contain small tenacious masses of mucus. The animalcules resemble an elongated almond in shape; the narrow end terminates in a pointed process, and the anterior round end is provided with cilia. Their *habitat* appears to be the rectum and colon. The most effectual treatment was the injection into the rectum, three times a day, of a solution containing three-fourths of a grain of corrosive sublimate; the intestine having been previously washed out with warm water.—*British Med. Journal*, Sept. 28, 1878.

—

Rupture of the Spleen due to Muscular Action.

The case of spontaneous rupture of the spleen described by Dr. Markham Skerritt (see *Monthly Abstract* for July, 1878, p. 307), is of great interest from a medico-legal point of view, and its publication has induced Dr. R. SYDNEY STONE, Government Medical Officer for the District of Flacq, Mauritius, to com-

municate (*British Medical Journal*, Sept. 28, 1878) two instances in which the organ was ruptured by muscular movement without the application of external violence to the structures protecting it.

It is, no doubt, well known that Mauritius is now a very malarious country, whatever it may have been formerly. Enlarged and diseased spleens are the rule rather than the exception in certain localities and among certain classes. Violent deaths due to rupture of a diseased spleen are consequently common, the violence varying from that sufficient to cause a broken rib to such as leaves, on the most careful inspection, no mark of violence, externally or internally, beyond the injury to the organ itself. It may be here observed that the commonest indication of violence found is a small extravasation of blood in the muscular layer of the parietes.

CASE I. On October 4th, 1873, an Indian woman, named Rujkalea, about thirty years of age, belonging to the Branchamp estate, was carrying a large vessel of water on her head. She made a sudden movement to save the vessel from slipping, immediately fell down, and had to be carried fainting to her hut, where she died soon afterwards. The police had no suspicion of violence having been used. The occurrence was witnessed by a number of persons, and happened on the high road. On inspection, forty-eight hours after death, there was found a large quantity of blood in the abdominal cavity, which had escaped from three superficial tears of the spleen radiating from the hilus. The organ was very large and soft, with an extremely delicate capsule. There was no ecchymosis of muscles over the organ. The stomach contained part of a meal of rice.

CASE II. On February 25th, 1877, an Indian woman, named Sunichuri, about thirty-seven years of age, paid a visit to her husband, who was an inmate of Providence Estate Coolie Hospital, suffering from ague and hypertrophy of the spleen. The latter was sitting on a bed, when, becoming angry at his wife asking him for money, he struck her on the face. In making a movement to get out of his way, she fell and shortly died. The man himself gave the alarm, and described what had happened to the police. On inspection, fifteen hours after death, the body was found to be fat, and there was a small bruise under the left eye. The belly was somewhat prominent, but not hard. There was blood, both fluid and clotted, in the abdomen. The spleen had a long perpendicular rent on the inner side, extending from the hilus to the inferior border, where the rupture was the deepest. The organ was diseased; was of the consistence of thick cream; had a very delicate capsule, and weighed in its empty condition one pound and a half. No bruise could be found in the abdominal or chest-walls, nor on the skin of the chest or belly. A slight bruise was found beneath the skin of the left temple, but no corresponding mark on the skin itself.

I expressed an opinion, not forgetting Case No. 1, and taking all the evidence into consideration, that the spleen, in this instance, was ruptured by a sudden movement. The man was charged with a simple assault, and sentenced by the district magistrate to one month's imprisonment.

The second of these two cases is very similar, both in the circumstances under which it occurred and in the view taken of it by the legal authorities, to the celebrated Indian case which occasioned a collision between the executive government and the judges, and a reference to the Secretary of State.

Those interested in the subject of rupture of the spleen will find a large number of references in Dr. Norman Chever's work on *Medical Jurisprudence in India*. He observes in a footnote: "Dr. J. W. Wilson suggests, with great reason, the probability that, however softened and congested it may be, the spleen never ruptures spontaneously, except under the action of muscular pressure, while the patient is turning or moving suddenly." Dr. Skerritt does not

assign any reason for the anæmic condition which gave rise to the epistaxis and the passive hemorrhage in the interior of the spleen, causing the bursting of its fibro-elastic tunic. The description of the case does not, perhaps, preclude the supposition that malarial poisoning may have been the cause. But the case would not on this account, I believe, be less unique. *Congestive* apoplexy (to use the phraseology employed in the official nomenclature of disease) of the spleen is common in chronic malarial poisoning, and predisposes a fragile spleen with a delicate capsule to rupture from slight causes. Dr. Skerritt's case, however, is the first instance of *sanguineous* apoplexy, either of a healthy or an unhealthy spleen, that has come to my notice. In the two cases related above, the cause of the rupture was probably the sudden concentration of the weight of the organ at the hilus or point of suspension, and the consequent giving way of the stretched and attenuated capsule. It is conceivable that such an accident might happen even in bed.

—

Icteric Urine.

When jaundice is not well marked, a great assistance is derivable from examination of the urine. The following three tests are employed by Prof. HARDY before his clinical class with marked success: 1. *Chloroform:* When this is poured upon normal urine, it sinks by reason of its great density to the bottom of the test-glass, exhibiting there a crystalline transparency. If we pour it on the icteric urine, and, having shaken the test-tube plugged by the thumb, leave it quiet for a moment, the chloroform deposit contrasts strongly by its dull colour with the yellow of the superficial layers—the yellow colour being deeper in proportion to the quantity of bile in the urine. It is an excellent test of icteric urine. 2. *Iodine:* When the iodine is poured upon the icteric urine the mixture must not be shaken. At the upper part of the tube three very distinct colours are observable—the first layer formed by the tincture is violet; below this is a kind of diaphragm of a sea-green colour; and the third layer, consisting of the urine, and occupying the lowest part, is yellow. 3. *Nitric Acid:* When this agent has been poured in, the mixture after shaking assumes a bottle-green colour, passing into an olive. This is an entirely special and very characteristic appearance.—*Med. Times and Gaz.*, Sept. 21, 1878, from *Rév. de Thérap.*, Aug. 15.

—

Abscess of Kidney treated by Aspiration.

Mr. ARTHUR LUCAS reports (*Lancet*, Sept. 28, 1878), the following interesting case of abscess of kidney which was treated by aspiration.

On October 3d, I was called to attend S. P———, a lady aged sixty-two years, who complained of nausea, vomiting, and loss of appetite, together with pain in the right side of her belly shooting through to the back. She stated that she had been suffering from these symptoms for some weeks, though to a less degree. She did not remember to have shivered at any time. Her pulse at this period was 100; temperature 101.4°; tongue red and glazed; bowels regular. Palpation failed to elicit any irregularity or swelling in abdomen owing to the extreme tension of its walls on even moderate pressure. The urine was scanty, cloudy when passed, and deposited an amber-coloured sediment which half filled the glass on standing. Its specific gravity was 1030, and it contained two-thirds albumen. Numerous pus-cells were seen on microscopical examination.

On October 5th she had a succession of rigors, with rise of temperature and pulse-rate, and at a spot situated midway between the right iliac crest and costal margin, four and a half inches to the right of umbilicus, there was tenderness on

pressure, dulness on percussion, and a sense of resistance apparently beneath the abdominal muscles, the latter appearing to move independently. The margin of the liver could not be felt owing to the fat condition of the patient, but an area of resonance existed to the extent of about an inch between the costal arch and the dull space.

On October 8th a fulness in the right side of the abdomen was noticed, chiefly in the upper part of the lumbar region, and here a rounded semi-solid lump about the size of a cricket-ball could be felt. The patient was suffering more pain, and her general health appeared to be getting daily more impaired. I therefore determined to explore the swelling. Accordingly on October 10th, I aspirated the tumour, using Coxeter's instruments, and drew off ten ounces of brown, flaky-looking fluid, which was followed by six ounces more of greenish-yellow pus, some of which was mixed with the fluid first drawn. The wound was then closed, and the aperture sealed with cotton-wool and collodion. The next day the urine passed was quite clear, contained one-fourth albumen, and deposited lithates on standing, but no pus-cells could be found on microscopical examination. The pain and tenderness became less, and the patient gradually improved in health till a fortnight after, October 25th, when she again experienced a succession of rigors, and passed thick urine in all respects similar to that before noted.

On November 1st the swelling of the right flank again appeared. This was again aspirated, and sixteen ounces of pus withdrawn. The cavity was then washed out with a solution of Condy's fluid and water, and the aperture closed as before. The same evening the urine passed was perfectly free from pus.

From this time she steadily improved and recovered in a fortnight. I have on several occasions examined her since, but could detect no swelling, and she has remained well.

Surgery.

The Pathological Anatomy of the Lymphatic Glands.

The last part of the *Journal de l'Anatomie* contains an interesting note, by M. CORNIL, of the results of his observations on the pathological anatomy of the lymphatic glands. The structures of these glands, thanks to the labours of Frey and many other observers, is sufficiently known, and it is only requisite to refer to the distinction between the proper follicular or medullary substance of the gland and the lymph-spaces or cavernous structure which surrounds them. It is in these spaces, which are continuous with the afferent and efferent vessels, that, according to M. Cornil, the first evidences of disease appear, and the morbid phenomena are usually consecutive upon lesion of some neighbouring tissue or organ. In acute forms of adenitis—such, for example, as occurs after a phlegmon—the afferent lymphatics contain pus, which by degrees fills the cavernous spaces, the adipose tissue around the gland becomes infiltrated with pus, and the cells of the adipose tissue become surrounded by lymph-corpuscles; and it is not difficult to trace the further changes that occur till an abscess is developed. The phenomena observed in syphilitic and strumous inflammation are, however, of a more interesting nature. M. Cornil first speaks of adenitis from syphilis, which he divides into two groups, adenitis of the primary or secondary period, and adenitis of the tertiary period. In regard to the first, he finds, on microscopic

examination of the glands, besides the ordinary lymph-corpuscles, large spheroidal cells containing several nuclei, the more voluminous of which contain two nucleoli. These large cells are much more numerous in the cavernous system than in the follicular tissue. He considers that they proceed rather from the flat cells which coat the reticulum, and are analogous to the so-called endothelial cells of the great omentum. Coincidently with the appearance of these there is a slight accentuation of the delicate connective-tissue fibres which radiate from the hilus of the gland to the periphery. Thus, at this stage, it may be said there is proliferation of the nuclei of the cells, and a slight degree of sclerosis.

In regard to adenitis of the tertiary period, M. Cornil calls special attention to a form where the swollen ganglia form soft whitish masses of medullary aspect. In these cases the changes observed affect almost exclusively the cavernous system and all the lymph passages contained in the ganglion. The fine reticulated or follicular tissue presents no noticeable alteration. The cavernous system becomes filled with round and granular lymph-corpuscles, and with the large cells containing many nuclei. It may be said, therefore, that at this stage there is a kind of catarrhal inflammation of the vessels, and of the intra-ganglionic lymphatic passages.

Professor Cornil then proceeds to discuss the conditions present in scrofulous adenitis. The glands are here characterized by a prodigious development of the connective tissue, and by the caseification, either partial or complete, of the whole gland, which takes place as a consequence of this change. Even at an early period of the disease bands of connective tissue may be seen proceeding from the tube, accompanied by some minute lymphatics and bloodvessels, and these, gradually increasing, divide the gland into islets. The islets assume a yellowish colour, and are then found to be composed of reticulated connective tissue, but the fibres are more thickened, soft, and granular than natural. The meshes are filled with large cells, containing granular protoplasm and a voluminous nucleus with two nucleoli. Surrounding the islets is a felt-like structure, which is also formed of reticular connective tissue, but the meshes are so elongated that the fibres collectively appear like fasciculi arranged concentrically to the islet. They contain lymph-corpuscles, with round or oval nuclei, which are smaller than those of the islet. In scrofulous adenitis, therefore, there is a true cirrhosis of the ganglion occurring at the expense of the perifollicular tissues of the cavernous tissue, of which no trace remains. This lesion leads ultimately to a fibrous transformation of the whole ganglionic mass, or, rather, to the caseification of the whole gland, which is the ordinary state.—*Lancet*, Sept. 7, 1878.

—

Use of Iodoform in Glandular Swellings and Cold Abscesses.

Dr. MOLESCHOTT, of Turin, writes (*Giornale Internazionale delle Scienze Mediche*, Nos. 5 and 6, 1878) that he has used iodoform with success in cases which have been usually treated by iodine ointment, such as glandular swellings and cold abscesses. He mentions a case of enlarged spleen, with great prostration, pallor, obstinate diarrhœa, swelling of the lymphatic glands, and increase of the white blood-corpuscles (1 to 50 red), in which very favourable results followed the painting of iodoformed collodion over the spleen and lymphatic glands. Not less successful was its application in orchitis and epididymitis, and also in exudations into serous cavities, even including hydropericardium. He advises that iodoform collodion should be tried before paracentesis whenever removal of watery effusion is necessary. He has cured five cases of acute hydrocephalus by the application of this remedy several times daily; calomel and purgatives being, however, given at the same time. In cases of swelling of the knee-joint, where surgical interference appeared unavoidable, perfect recovery followed the pro-

longed local application of the iodoform. Apart from its action as a resolvent, iodoform has the property of relieving pain; Dr. Moleschott hence recommends its use in painful attacks of gout, and also in various forms of neuralgia. In a case of intercostal neuralgia, he gave it internally in the form of pills (three-fourths of a grain daily) as well as externally. In severe neuritis, he has used iodoformed collodion successfully after other treatment had been tried in vain. Administered internally, it will probably be useful in the palpitations of nervous and hysterical patients, and will restore the regularity of the heart's impulse. Its offensive smell is obviated by mixture with tannin.—*British Med. Journal*, Sept. 28, 1878.

A Pathological Function of Periosteum.

Those surgical pathologists who are striving to raise the question of tumours above the bare level of an artificial and stagnant classification will read with interest a paper by Dr. CREIGHTON, in the *Journal of Anatomy and Physiology*, vol. xii., "On a Pathological Function of Periosteum." In his work upon the Normal and Morbid Physiology of the Breast, Dr. Creighton, as is well known, offers a rational explanation of tumours of that organ by regarding them as the products of functional irregularities. As regards the other great *epithelial* seats of tumour-formation, the stomach and uterus, the physiological factor is not so obvious, as there is not the same periodicity of action as in the mamma, to throw light upon the possible vicissitudes of the secreting structure. Still, the element of cell-formation, which is constantly to be kept in view in considering the origin of tumours, is to be found in the morbid physiological processes of these organs also; for simple catarrh, to which they are pre-eminently liable, is nothing else than an enfeebled and largely cellular kind of secretion.

But when one comes to consider tumours of the *connective-tissue* type, such as the "*sarcomata*," it seems as if they had from the outset to be accepted as independent existences, possessed of an individuality, and comparable to parasites on the body. The physiological factor is not available in their case as in the case of tumours forming in secreting structures, because the tissues of the connective-tissue series, in which they take origin, are not endowed with an activity that may be described as functional; as Virchow has remarked, the connective tissues "are always essentially passive in their working." There is, however, one tissue belonging to the connective-tissue series that has a "function" of an intelligible kind. Periosteum is a typical example of connective tissue, while its bone-forming function brings it into comparison with a secreting organ. Besides the constant renewal of secreting epithelium in an organ like the breast may be set the incessant activity of the periosteum, at least during the growing period, in producing osteoblasts. It is this formative function that makes periosteum perhaps the most dangerous of all the connective tissues. Many of the most malignant sarcomatous tumours occur in young subjects, and of these the greater number are of periosteal origin. The tumour-formation in such cases is a disease of growth, and it is incidental to the bone-forming function of periosteum. In the work before us, Dr. Creighton describes a particular case of malignant tumour as illustrating this pathological function of periosteum; and shows how the mode of explaining tumour-formation in the case of the breast may be resorted to in certain cases of sarcomata or new growths of the connective-tissue series.

A girl of nineteen, with rickety spine and head, died in St. Thomas's Hospital, under the care of Mr. Simon, with tumour of the metatarsus, enlarged inguinal glands, and symptoms of secondary invasion of the thoracic viscera. Post-mortem: the tumour was found to grow from the periosteum solely; the lymphatic glands

of the groin and of all parts of the abdomen were enlarged and whitish; the lungs were full of white nodules; and both ovaries were diseased, being occupied by several cysts of various sizes, while the remaining stroma had the whitish appearance of the tumour-tissue. In proceeding to consider the essential nature of this case, Dr. Creighton first states that he considers the patient to have been unquestionably rickety. As regards the tumour of the foot, it might be described as an "alveolar sarcoma," consisting as it did of trabeculæ of matrix-tissue, lined on both sides by cells arranged in regular order. The ground-substance was occupied with spindle-shaped nuclei, and at numerous points there occurred groups of the cells that were the characteristic cells of the tumour, while at other parts the groups of cells might be seen beginning to form from the nuclei by enlargement and proliferation, the cells arranging themselves round the firm margin of ground-substance, and the original centre of their formation becoming a space or alveolus, which they line like epithelium.

In such a case as this the physiological suggestion lies near at hand. The matrix-tissue is periosteum, the trabeculæ are bone-trabeculæ, the alveolar spaces are medullary spaces, and the tumour-cells are osteoblasts. The periosteum of the metatarsal bone has produced a malignant tumour, but that tumour has all the features of bone growing in periosteum, except the hardening with earthy matter. The tumour was soft and white throughout its whole extent, and there was nowhere found a particle of grit. In the absence of earthy matter in the periosteal formation lay the essential departure from the normal function of periosteum. This brings to mind at once the rickety disposition of the patient. The tumour occurred in a rickety subject; and the structure of the periosteal new-growth is suggestive of the crude periosteal formation of rickets. The patient's rachitic disposition made it possible for the tumour to form, and determined its structure and character. Now, in the normal formation of bone from periosteum or in membrane, the keeping up always of a free row of cells just outside the ossifying substance is a contrivance to secure the continuous proliferation of the cells till growth is complete. The sole reason of the osteoblasts ranging themselves on the surface of the trabeculæ is that the substance of the latter is getting calcified. Calcification is a check upon the proliferation of the cells; after a few generations of osteoblasts have become included in the ground-substance, the central cavity is greatly narrowed, and proliferation ceases. In the case of the tumour, the osteoblasts have arranged themselves as in normal calcification; but the calcification has not taken place. The error underlying the whole of the morbid process is the absence of calcification. And since there is no calcification, the formation of new cells goes on indefinitely, and the formative process becomes a tumour-process. The cause of the tumour is thus discovered to consist in the departure of the periosteal function from the normal. The tumour is an excessive development of osteoblastic tissue by the side of a particular bone; the unrestrained productiveness of the periosteum depending on the entire absence of the hardening constituent of osteoblastic tissue; and this absence being "explained" by the rickety disposition of the patient. Virchow has himself remarked that he is not disinclined to admit that the predisposition to enchondromata may possibly be viewed as arising from rickets or from a similar abnormal process.

With respect to the *malignity* of the tumour, the secondary tumours in the lungs, ovaries, and lymphatic glands proved to have exactly the structure of the primary —the same appearance of trabeculæ and osteoblasts. Dr. Creighton does not attempt to account for the infection, and wisely limits himself to certain general remarks on the subject which he had occasion to make in his previous investigations on malignant growths.

A highly suggestive remark, which may be studied with advantage by morbid

histologists, is made in the course of this paper. Among other organs secondarily infected by malignant growth were the ovaries. Dr. Creighton says that, apart from the rarity of its occurrence, the tumour-infection of the ovaries is more than ordinarily interesting. In all other cases of organs secondarily infected, such as the liver, lung, and lymphatic glands, the organ remains purely passive under the working of the infection; its tissue becomes transformed at a number of spots into the likeness of the parent-tumour. But the ovary in this case gave a certain character of its own to the infective process—namely, a cystic character. The stroma of the ovary appeared to be a matricular tissue, which, even under the influence of the infection, did not entirely surrender the physiological properties that are inherent in it.—*Med. Times and Gaz.*, Sept. 28, 1878.

—

On Changes in the Medulla of the Long Bones under certain Pathological Conditions.

In the hope of throwing some light on the pathology of the marrow of the bones, Drs. LITTEN and ORTH (*Berliner Klin. Wochenschrift*, Dec. 17, 1877) examined the bones of 100 persons of different ages, varying between 11 and 81 years, and found to their surprise that in the great majority of the cases the femur contained red marrow to a greater or less extent. Almost without exception this was located in the upper end of the diaphysis, extending in a compact mass to a varying distance in the cylinder; in some cases small round or jagged red nodules were seated in the midst of fatty medulla. In these 100 cases, red marrow was found in 72; hyperæmic fatty marrow, which contained a moderate number of medullary cells, and was in spots of an intense red colour, in 17; and pure or atrophic fatty marrow, containing, however, hyperæmic streaks and islets, in 11 only. In most of these cases death had resulted from disease, but in some of them it had been due to injury. The red marrow was found in the latter as well as in the former, but the general conclusion drawn from the cases, was that the deviation from the normal state of the medulla of the bones is principally to be found in connection with chronic diseases, more particularly those which lead to cachexia and marasmus, such, for instance, as phthisis and cancer. The deviation was, however, also met with in some cases in which death had resulted rapidly from acute disease. An interesting point is, that all the acute affections in which red marrow was found were affections that are always, or at least generally, attended by swelling and hyperplasia of the spleen. The results of these investigations confirm also Ponfick's statement, that a varying degree of atrophy of the marrow, with transformation into a gelatinous substance, is frequently found in connection with chronic and especially cachectic diseases.

With regard to the anatomical elements of the medulla, Drs. Litten and Orth regard the nucleated red blood-corpuscles as a very constant element, as they failed to find them in only 8 of the 100 cases. All of these eight individuals were over 50 years of age, all of them had died of diseases common to old age, which do not lead to marasmus, and in all of them, with one exception, the medulla was purely fatty. On the other hand these corpuscles were found in a man of 81 years who had died of cancer of the bladder. They were often found, although in small numbers, in apparently purely fatty marrow, and they were sometimes found, also, in the blood. Cells, which were much less deeply coloured, and were, perhaps, a younger stage of the transitional form, were very frequently met with. The ordinary red blood-corpuscles were present in large numbers, and there was also a considerable number of very large, deeply coloured cells about 0.01 mm. in average diameter, and without nuclei. These are what

Hayem called giant blood-corpuscles; they have frequently been found during life in the blood of anæmic individuals.

The ordinary medullary cells with granular protoplasm were found in almost all the cases; smaller forms with hyaline cell-body were also met with, but less frequently. Cells containing blood-corpuscles were seen in 31 of the 100 cases; some of these cells contained also nucleated red blood-corpuscles. Pigmented cells were even more common; in one instance the pigment was so abundant that the case had to be regarded as one of melanosis of the marrow. The subject had suffered from chronic intermittent, and the spleen and liver were full of the same pigment. The Charcot-Neumann crystals were found in most but not all of the cases.

The conclusions drawn from these cases by the investigators are, first, that the progressive displacement of the red by yellow marrow as age advances must be admitted, but that the change is by no means regular, and that it can be stopped, and even a retrogressive change caused, by various pathological processes. Second, that, in general, diseases which lead to marasmus are most constantly attended by the development of red medulla in the long bones, and by an increase of the nucleated red blood-corpuscles. Third, that the changes in the marrow in pernicious anæmia are not peculiar to that disease, but are found—even combined with similar changes in the blood—in other diseases attended by intense anæmia.

Drs. Litten and Orth are disposed, from these investigations, to agree with Neumann in the opinion that the changes in the bones are secondary to, and caused by, the anæmia, and that they indicate an effort of nature to counteract the anæmia by increased production of blood. To determine this point they have instituted a series of experiments on dogs, which were made anæmic by repeated and copious venesections. These experiments are not yet completed, but they state that in four of the dogs red marrow was found in long bones that normally contain fatty marrow, and that enormous numbers of nucleated red blood-corpuscles were found in the newly formed red marrow as well as in that of the short bones: some of these cells were also found in the blood. In a fifth dog, that was killed after five venesections, the number of medullary cells and of nucleated red blood-corpuscles was unusually large, while that of the ordinary non-nucleated red corpuscles was uncommonly small.—*The Med. Record*, Sept. 14, 1878.

—

Removal of a Large Lipoma.

In the *Wiener Medizinische Wochenschrift*, No. 11, 1878, is related a case occurring in Dr. BILLROTH'S practice, in which a man, aged 71, had on his back a lipomatous tumour hanging from his shoulders as far as the sacrum, and partly covering the nates. Its greatest longitudinal circumference was about forty-five inches, and its transverse circumference fifty inches. The pedicle, which was nearly two feet in circumference, arose mostly from the left scapular region. The tumour had existed thirty years; and the patient desired its removal on account of the friction and exacerbation which it caused. His general health was good. The blood contained in the tumour was forced into the body by four elastic bands; a piece of elastic tubing was then fastened round the pedicle, and prevented from slipping by means of a long pin. Skin-flaps were then made above and below; the large bloodvessels were tied in two places and divided; and the tumour was removed. There was but little bleeding. Thirty-five catgut ligatures were applied, the wound was united with thirty-six sutures, a drainage-tube was inserted, and the part was dressed antiseptically. The operation lasted two hours. The tumour, which weighed about 44 lbs., was a lipoma about twice as

large as a man's head. Healing took place by the first intention. During the course of the case, the patient had spontaneous gangrene of the right lower limb, for which the leg was amputated above the ankle. On the eighteenth day after the removal of the tumour, the patient left the hospital with the operation-wound nearly healed.—*British Med. Journal*, Sept. 7, 1878.

The Influence of Tobacco upon the Development of Diseases of the Ear and Deafness.

LADREIT DE LACHARRIERE in an article upon this subject in the *Annalès des Maladies de l'Orielle* (Sept. 1878), says tobacco should be classed along with alcohol. Like the latter, it has little effect upon many people, in moderate quantities; it may even be of advantage sometimes, and the physician can and ought at times to prescribe and advise its use; but to some even in small doses, it excites funtional troubles, as I have often been able to establish in the practice of diseases of the ear.

I often recognize cases of deafness that are dependent upon no other cause, and I desire to call attention to this point. Few works upon otology mention the injurious effects of tobacco, and authors who have pointed them out, have not done so in a sufficiently explicit manner.

Triquet devotes a chapter to the otitis of smokers and drinkers, but almost exclusively as regards its influence upon the nervous system. I desire to point out its effects upon the naso-pharyngeal and auricular mucous membrane; upon the organs of the tympanic cavity; upon the muscles of the pharynx and soft palate; upon the nerves of this region, and the auditory nerve. The injurious effects that I have observed have been from smoking tobacco. Tobacco used for chewing ought to have the same deleterious effects, though while its consumption is extensive, its use is not so widespread.

The author thinks that the irritation of the chewing tobacco is more localized and that its irritative effects are more transient than the smoke which spreads over the entire naso-pharyngeal mucous membrane, even entering the Eustachian tubes and middle ear, along with the air. Smoke causes a continuous irritation so long as one smokes, which is usually from half an hour to an hour. Instead of provoking an abundant secretion like chewing, it causes a dryness of the mucous membrane with which it comes in contact—true smokers expectorate little or not at all, when they do it is the result of the excitement of the secretion from the mouth. Cigarette smokers who expel the smoke through their nose, send it directly against the Eustachian tubes, and if these are patulous, into the middle ear also. Tobacco smoke contains a great many solid particles, these are deposited on the moist walls with which they come in contact; a fact which the odour and taste in the smoker prove.

The author asks if we have not here permanent causes of irritation and intoxication as we have in the dust of lead and arsenic, etc. The angina of smokers is characterized by the swelling, the roughness, the dryness and the insensibility of the mucous membrane of the palate and pharynx. The swelling is uniformly spread, being particularly marked upon the uvula, which is greatly enlarged and sometimes deviated to the right or left.

The mucous membrane is as red as in the acute phlegmasiæ, but presents a duller colour; a congestive rather than an inflammatory red.

The dryness of the throat is apparent, the epithelial lining is smooth and glistening.

The patients complain of no pain, no inconvenience, and invariably say they have no soreness of throat; it is evident, however, that the state described has existed for a long time. They do not come for relief till subjective phenomena

present themselves. These are tinnitus and deafness. (The objective symptoms and the condition of the parts, while given at length by the author, are those of chronic inflammation of the middle ear.) The author regards the condition of the mucous membrane as congestive rather than inflammatory, since such patients do not complain of pain, nor of any throat symptoms, nor is the nasal secretion increased. He thinks the insensibility of the throat is due to the narcotic action of the tobacco.—*Cincinnati Lancet and Clinic*, October 12, 1878.

Paracentesis Abdominis by Gradual Drainage with a Single fine Canula.

The unusual relief of the distressing symptoms of anasarca, which Dr. REGINALD SOUTHEY, Physician to St. Bartholomew's Hospital, has found to follow the employment of fine drainage-canulas, encouraged him to employ the same apparatus in the treatment of ascites; and now that his experience has extended over a fair number of cases, enough to satisfy him that this mode of proceeding is attended by no extra risks, he lays it briefly before the profession in the pages of the *Lancet* (Aug. 10, 1878). His description is as follows:—

Apparatus.—The trocar and bulb-headed canula required for the purpose of gradually drawing off ascitic fluid, by the help of a capillary tube, differs very little from that employed by me for anasarcous limbs. Both instruments are equally fine. The calibre is the No. 1 exploring trocar of the surgeon. One long needle-trocar, measuring an inch and three-quarters in length from hilt to point, has appeared long enough for all the cases hitherto tapped by me. Three or four canulas of different lengths, adapted to the thickness from fat and œdema of different abdominal walls, are required. The canulas may be perforated with as many as six or eight side holes—the more the better, so that their strength is not interfered with. The mouth end of each canula should be armed with a small silver plate or shield, to obviate any risk of the canula head sinking beneath the surface of the skin when this is highly œdematous; and, simple as it may seem to contrive an armature which may thus secure and help to maintain the canula in position, I may say that I have not yet quite mastered the matter. As to the length of the shield or cross-beam, one inch appears ample—*i. e.*, half an inch each side of the canula. The shield may be round or square with rounded edges, or, as I have had mine made, as elongated plates, one inch long by a quarter of an inch broad, and about a thirty-second of an inch thick. Whether the canula was best fixed immovably to the shield or otherwise, was the next point to decide. It was found that the immovably fixed shield, held fast by two strips of plaster, by dint of the movements of the abdominal muscles in respiration either worked away from its plaster moorings or tended to work out the canula end from the peritoneal cavity. Messrs. Ferguson therefore contrived a shield for me which held, but allowed the canula a limited play in every direction, and in practice this has worked admirably. One instrument I had made for those particular cases in which, although the ascites has been considerable, and its relief urgent, the presence either of cancerous tumours in the abdominal cavity or an enlarged liver has rendered a hard and pointed body, like the canula end, abutting on the peritoneal aspect of the abdominal parietes undesirable; for as the fluid drains away the abdomen collapses and the parietes sink, and large, soft-surfaced masses, moved up and down by the descent of the diaphragm, might be torn and fretted against the canula, and made to bleed. To meet this emergency a canula which merely traversed a shield-plate, and was not fixed at all, appeared best adapted. If anything pushed it from within, out it could come.

Mode of operation.—Trivial as this is, it appears to me from experience that

there is a right and a wrong way of introducing the canula. Instead of driving the trocar in quite perpendicularly, it is best to slope the point downwards somewhat towards the pubes, and to avoid making the canula point upwards towards the sternum. The wound made is so slight that one can afford to make it almost anywhere, but from prejudice I should select the raphe or mesial line below the umbilicus, and about midway between this and the pubes. Before operating, I always insist upon my house-physician ascertaining that the bladder is empty.

I append one case of ascites from cirrhosis thus treated, but for the last year I have had every cases of ascites—hepatic, carcinomatous, cardiac, renal—which has fallen under my care at St. Bartholomew's, and required tapping, tapped in this way; and the results have proved sufficiently satisfactory for me to recommend it highly. I have had no instance of peritonitis thus provoked. The paracentesis, instead of being a formidable operation, is nothing more than the prick of a needle. The ascitic fluid is quite sufficiently evacuated; it is also removed gradually; the near average rate of its removal being from ten to twenty ounces per hour. The pressure upon the diaphragm, the intestines, the intra-abdominal vessels, and the walls of the abdomen, is slowly but steadily relieved. There is no syncope provoked and no necessity for swathing the patient with bandages, a circumstance in the old method of performing paracentesis by large trocars which in hot weather added greatly to the patient's distress. Both by doctors and patients this mode of performing paracentesis will, I think, be hailed as an advance in clinical medicine.

William H——, aged fifty-eight, shoemaker, was admitted into Luke ward on March 12, 1878, for extensive ascites and anasarca of his legs. The abdomen was very tense; dyspnœa considerable; some cyanosis. Urine scanty, high coloured, of high specific gravity, containing no albumen. Heart's apex beat two inches outside left nipple line; systolic murmur loudest at apex and over ventricle. Pulse very irregular. Breathing shallow; some œdema of both bases, posteriorly with bronchial râles. Limit of liver and spleen not to be ascertained by reason of the ascites. Up to ten years ago he had had good health; then had first attack of rheumatic gout. Was admitted into the hospital in June, 1876, for dropsy of legs and abdomen, and was discharged well, and again for a recurrence of dropsy about Christmas, 1876.

The man's physiognomy, his habits of life, and the manner in which his present dropsy had commenced, the abdomen swelling before the legs, led me, notwithstanding the cardiac murmur, manifest dilatation of both ventricles, and irregular heart's action, to attribute his dropsy principally to cirrhosis of the liver and an obstructed portal circulation.

Paracentesis abdominis with my fine trocar and fixed shield was performed at 6 P. M. on March 13. In twenty-one hours, 11,400 cc. of clear, straw-coloured serum had been evacuated by the capillary tube. The specific gravity of the ascitic fluid was 1020; reaction alkaline. The amount of fibrin as well as of albumen in it very considerable; the former manifesting its presence by spontaneous formation of a slight coagulum in the fluid. The tube was removed during the night of the 14–15, the fluid having ceased to flow, and the abdomen being quite flaccid.

March 18. Condition singularly improved; appetite good; functions normal; urine flow abundant, clear, amber-coloured, alkaline, sp. gr. 1024, no albumen; breathing quite tranquil; sleeps well; heart's apex still beats two inches outside left nipple perpendicular between fourth and fifth ribs; action still irregular; first sound loud and ringing, but attended by no murmur; liver manifestly contracted, small and cirrhotic.

Towards end of April the abdomen had again filled considerably, and the legs

began to be œdematous once more, but his appetite and general health were otherwise fairly good.

May 5. The distension of abdomen and interference with the descent of the diaphragm again threatened death by dyspnœa. Breathing shallow and hurried. The auscultatory signs rendered presence of some fluid in right pleura probable, as also œdema of lower part of left lung. Paracentesis again performed as before. The tube remained in thirty-three hours, during which time twenty-one pints of clear fluid were drawn off; it ceased flowing on the morning of the 7th of May.

On May 9 he was so perfectly comfortable and feeling so well that there was no object in keeping him longer in bed. On May 11 he was discharged at his own request.

Remarks.—This patient's case was doubtless a highly favourable one for relief by tapping. The best prognostic feature in any case of hepatic dropsy is a stomach that still maintains digestive powers. In treatment, however, this mode of performing paracentesis leaves nothing to be desired; the *tuto, cito et jucunde* are sufficiently fulfilled by it.

—

Chronic Ulceration of the Urethra in Women.

This affection, described by Dr. West, is the subject of an article by Dr. OEDMANSSON of Stockholm in the *Nordiskt Medicinskt Arkiv*, Band ix. He has seen four cases of it, and describes it as commencing in the anterior part of the urethra and gradually extending along its whole length. The upper wall is mostly affected, so that the greater portion of it may be destroyed when the lower wall is as yet scarcely invaded. The first symptom is swelling, which makes the surface of the parts appear uneven, very pale, and wax-like; the tissue hard and transparent, and the urethral orifice irregular and dilated. The secretion in the urethra before the commencement of ulceration is very inconsiderable. In one case, there was chronic œdema commencing in the right labium majus and extending to the whole perineum. The subjective symptoms are in general slight; in a very advanced stage, there may be weakness of the vesical sphincter. Microscopic examination shows a considerable hyperplasia of the epithelium; in some cases, various quantities of cells like pus-corpuscles; as well as considerable quantities, in the mucous and submucous tissues, of cells of various forms, some having the structure of pus-corpuscles, while others are larger, and rounded, or stellate with long processes. Dr. Oedmansson does not agree with Dr. West that the affection depends on syphilis; as, although all the patients in whom it has been observed have been prostitutes, there was no trace of venereal disease, nor had mercurial treatment any favourable influence. The ulceration usually lasted several years, and often recurred after apparent recovery. In the early stage, when the ulceration is limited to the anterior part of the urethra, a cure is not difficult. Abscission of the irregular, sometimes polypoid, fragments of the anterior part of the urethral canal may hasten the termination of the process; and in one case the carefully repeated application of the actual cautery was beneficial.—*British Med. Journal*, Sept. 28, 1878.

—

Fifty Cases of Lithotrity.

Mr. W. F. TEEVAN sends (*British Med. Journal*, Sept. 7, 1878) the statistics of fifty cases of lithotrity occurring in forty-six adults, three of whom had previously been cut for stone. Most of the patients were between sixty and sixty-five years of age; the youngest being seventeen, and the oldest seventy-seven. In many of the cases, the presence of calculus was complicated by the existence of cystitis, enlarged prostate, stricture of the urethra, or vesical atony. The

smallest stone was half an inch in diameter, and the largest two inches. The sittings varied in number from one to twenty. When he commenced to operate in 1863, he determined to crush every stone he could up to two inches in diameter, to see what lithotrity was capable of; hence, he had pushed the operation to its extreme limit, and had applied it to three-fourths of the adults on whom he had operated for stone. In two instances, lithotrity had to be supplemented by lithotomy, and in a third case by cystotomy. In a fourth, he found, during the progress of the treatment, that lithotomy became advisable; the patient refused to submit to the operation, but, one year and a half afterwards, was successfully cut by Mr. Hancock. Six patients died in his hands, but he lost no case from the operation under sixty years of age. Three of those who died perished from causes unconnected with the operation: one being from calculous pyelitis one month after the cure of the vesical affection; a second from erysipelas of the head and neck and fauces; a third from heart disease whilst straining at micturition. The three deaths from the operation were caused by cystitis associated with kidney disease. Three old men were not permanently benefited by the operation, and died from cystitis after their return home. The other cases were all cured. He drew the following deductions from his experience. 1. Lithotrity was *the* operation in adults under fifty years of age for stones not exceeding an inch and a half in diameter. 2. In patients over fifty, the limit of the size of the calculus had better be reduced by a quarter of an inch. 3. Stones between an inch and a half and two inches in diameter had better be completely crushed at one sitting, and the *débris* removed immediately by external urethrotomy. 4. Cystotomy was indicated for those cases in which lithotrity had removed all the stone but failed to cure cystitis.

Phimosis as a Cause of Rupture in Children.

Mr. J. ARTHUR KEMPE, Senior House-surgeon at the Children's Hospital, Great Ormond Street, makes the following remarks on this subject (*Lancet*, July 27, 1878).

Phimosis in children is a common occurrence, and numerous ill effects can undoubtedly be attributed to it—namely, incontinence of urine, fits, and other spasmodic affections, masturbation resulting from irritation set up by retention of smegma, balanitis, and, later on in life, cancer of the penis. Professor Sayre, in his work on Diseases of Joints, devotes a chapter to phimosis as a cause of talipes and other paralytic affections. Ziemssen, in an article on "Pressure Points," alludes to the pressure of a tight prepuce on the glans as a cause of paralysis. Lately Mr. Owen has quoted some cases of eczema caused by irritation of dribbling urine, the result of a long or adherent prepuce. He also says: "In cases of umbilical and inguinal hernia it is well to look to the size of the urethral and preputial orifices."

The organ, however, that chiefly pays the penalty of this congenital imperfection is the bladder, and Mr. Bryant, in "Surgical Diseases of Children," says: "I have seen this simple condition of the penis produce every degree of irritability of the bladder, even to hæmaturia, also retention from the same cause, also priapism." Hernia, too, is frequently met with in children. Malgaigne says: one in every twenty-one children has rupture. The causes of hernia generally, whether occurring in man, woman or child, are divided into two main divisions —(*a*) exciting, (*b*) remote; the latter consisting in imperfection of the abdominal parietes themselves, the former in circumstances which exercise a more than usual compressing force on the viscera which they contain. As an exciting cause, *straining*, either violent or continuous, holds the foremost place. Now straining

may be brought about in a good many different ways—coughing, crying, etc. Straining from difficulty in micturition and evacuating the contents of the bladder, Mr. Kempe finds, has been alluded to by several authors—*e. g.*, Erichsen, Liston, Sir A. Cooper, Spence, Pott, Arnaud, Lawrence—all of whom mention it in connection with stricture, disease of the prostate, etc., in adults.

He has been unable to find any mention of difficulty in micturition as a cause of hernia in children, and the co-existence of phimosis and ruptures seems hitherto to have escaped notice (except the allusion made by Mr. Owen, *vide supra*). The frequency, however, of phimosis and rupture together, as it occurred to him, induced him to watch closely and see if it was anything more than a simple coincidence. He therefore took fifty consecutive cases (not selected

Age.	Under 6 months.	From 6 to 12 months.	From 12 to 18 months.	From 18 months to 2 years.	From 2 to 2½ years.	From 2½ to 3 years.	From 3 to 3½ years.	From 3½ to 4 years.	From 4 to 4½ years.	Totals.
Rupture,	15	5	5	1	1	4	0	0	0	31
No rupture,	4	3	2	3	0	4	0	1	2	19
Total,	19	8	7	4	1	8	0	1	2	50

ones), and found that out of fifty cases of congenital phimosis thirty-one had rupture, in five cases there was double inguinal hernia, and in many of them umbilical hernia as well (umbilical hernia *alone* has not been counted). In none of these cases was the rupture noticed at birth; the earliest was noticed three weeks after birth (here the prepuce was so tight that it was with great difficulty that the child could micturate at all), the latest two years and a half. In all of these cases circumcision was performed; in five the rupture never came down after the operation, and all have been much benefited.

It cannot, then, be unreasonable, in the face of these facts, to suppose that a long and tight prepuce may be a cause of rupture in children. The sequel of events is probably as follows: the abdominal parietes are naturally weak in children, which renders them less able to resist impulses which project the viscera against weakened parts. Here, then, is a remote or predisposing cause. The exciting cause is readily supplied by the frequent and continued efforts that the child makes to overcome the obstruction offered by the tight prepuce, and by the cries uttered consequent on pain caused in making these efforts.

—

Colles's Fracture.

The injury with which the name of the great Dublin surgeon has been associated by general assent is one of the most frequent with which we have to deal, and is yet one which there are few opportunities for minutely examining. Mr. Colles himself had never seen the actual condition of the fragments in the fracture which he described, and, as a matter of fact, he believed that it occurred at a higher point than it does. Dr. HECTOR CAMERON, of Glasgow (*Glas. Med. Journal*, March, 1878), has been so fortunate as twice to have the opportunity

of examining a recent specimen of the fracture after death. In the first, the fracture, although transverse, passes obliquely from above downwards and forwards, so that while at the anterior aspect of the bone the line is not more than a quarter of an inch from the articular surface, on the posterior the distance is increased to about an inch. There is some comminution of the lower fragment, and the broken surface of the upper is extremely rough and denticulated. This very irregular and notched character of the fractured surface appears to be usual (Malgaigne), and is of interest in so far as it may cause difficulty in the reduction of the displacement. In this particular instance, although it cannot be said that there is any impaction, a toothed projection on the long fragment so locks the other fragment in its new position upwards and backwards, that it would be impossible to reduce it, except by great force. In the second specimen there is a transverse fracture about three-quarters of an inch above the articular surface of the bone. In front the break is hardly complete, the periosteum holding the fragments together, but allowing them to bend at an angle there, as upon a hinge, so that the lower fragment is, as usual, tilted upwards and backwards, and has the direction of its articular surface so altered that it looks upwards, backwards, and outwards. On the posterior aspect, not only is the fracture complete, but the dense outer covering of the upper fragment is driven firmly into the substance of the lower, splitting it like a wedge into three fragments, which, however, hold closely and securely together. The impaction is complete and irremediable. Although firm extension improves matters, it does not unlock this connection between the two fragments on the back of the bone.

This observation may be read in connection with the dictum of Gordon, who says—"Colles's fracture is not, nor can it be, an impacted fracture; its mechanism declares impaction to be a mere phantom of the imagination, resulting from the erroneous interpretation of pathological facts" (Treatise, p. 27). R. W. Smith, an authority of the highest character, also observes that "the theory which supposes the fracture to be attended with impaction of the upper into the lower fragment is fallacious."

Cameron further discusses the causes of the prominence of the lower end of the ulna, and while admitting that it is frequently due to dislocation depending upon rupture of the internal lateral ligament, he believes that fracture and complete separation of the styloid process is certainly common. In five cases which he had an opportunity of examining, the styloid apophysis was detached. When Colles's fracture becomes compound, it is by reason of the dislocated ulna forcing its way through the skin. As a strange complication, Cameron mentions a case in which the ring and middle fingers were strongly flexed. A small body was found lying under the skin in the middle line of the front part of the forearm, about an inch above the wrist. It pressed on the median nerve. An incision over it exposed the scaphoid bone which had been dislocated. It was removed, and recovery followed.

Frank H. Hamilton, of New York (*Phil. Med. Times*, March 30, 1878), mentions that Moore, of Rochester, has observed in two autopsies the tendon of the extensor carpi ulnaris dislodged from its groove. He thinks this a very rare condition.—*Dublin Journal of Med. Science*, July, 1878.

Traumatic Separation of the Epiphysis.

Dr. VOIGT (*Archiv. für Klin. Chirurgie*, Band xx), describes the case of a young man aged 20, whose left humerus was shortened about five inches in consequence of an arrest of growth. At the age of 10, he suffered, through an accident, a displacement of the epiphysis at the head of the humerus; and from that time the upper arm entirely ceased to grow in length, while the growth in

thickness was unaffected. Only a small number of similar cases have as yet been recorded, by Birkett, Bryant, Bidder, and von Langenbeck.—*British Med. Journal*, Sept. 28, 1878.

Midwifery and Gynæcology.

The Treatment of Puerperal Convulsions occurring after Labour.

At a late meeting of the Obstetrical Section of the New York Academy of Medicine (*Med. Record*, Aug. 10, 1878), Dr. S. T. HUBBARD opened the discussion upon the above subject by relating the history of a case as follows: He was called to visit Mrs. E. on the 16th of March, 1878. She was thirty-six years of age, pregnant with her first child, and within three weeks of her expected confinement. She was delicate in appearance, yet apparently in good health. She complained of headache, had flushed countenance, imperfect vision, and constipated bowels. A brisk cathartic was ordered. The urine was examined on the following morning, and found to contain about fifty per cent. of albumen, with some granular casts. After free opening of the bowels, infusion of digitalis was given in drachm doses, three times a day; also three drachms of bitartrate of potassa dissolved in water were ordered to be taken in the course of twenty-four hours. Under that treatment the quantity of urine increased to the normal. There was no puffiness of the face or œdema of the feet. At the end of one week the quantity of albumen had decreased from fifty to ten per cent. The bowels were kept free by the use of bitartrate of potassa. The headache and the imperfect vision, however, were more or less persistent. On the first of April the doctor ordered grs. vj of calomel, with grs. x of rhubarb, to be taken at bedtime. On the following morning he was called, found that the woman was in labour, and that labour-pains began at about 9 o'clock on the previous evening. The child was born at 5 A. M., and the labour was in every respect normal. The headache continued, and the patient was somewhat restless. Two drachms of paregoric with ten drops of laudanum were administered. At 7 o'clock A. M. she went into a violent convulsion, which lasted from one to two minutes. When the convulsion had ceased chloroform was exhibited, and the woman was bled from the arm to the extent of twelve or fourteen ounces. The patient became conscious, but was kept moderately under the influence of chloroform, and, at about 8 o'clock, grs. xv of hydrate of chloral dissolved in water were thrown into the rectum, when she had another convulsion, more violent than the first. As the patient became restless from time to time, chloroform was administered. The infusion of digitalis was increased to ʒij every four hours. At 11 o'clock another convulsion occurred, but was less violent than the two former. Treatment continued. A goblet of milk was administered within every four hours. When the chloroform was let up for a few minutes, the patient complained of headache and almost complete loss of vision. The pulse, after the first convulsion, was 130, and continued from 116 to 120 during the first twenty-four hours. Temperature, 101° F.

On the evening of the next day the patient became somewhat restless; the bladder was emptied with catheter; an injection of fifteen grains of hydrate of chloral was given, and, soon after, another and the last convulsion occurred. A cathartic dose of calomel and jalap was ordered. Only a small quantity of chloroform was used. The effect of the chloral hydrate was continuous, although the dose was small.

On the following day the patient was better. The disturbance of vision continued, but was confined mostly to the left eye; the disturbance continued for a week and then disappeared. A trace of albumen was found in the urine for two weeks. At the end of that time the woman appeared to be as well as the majority of women were at that period following natural labour.

With reference to treatment in this class of cases, Dr. H. reached the following conclusions:—

1. That general bloodletting was called for when headache continued after labour was completed, and was attended by flushed face, restlessness, convulsions of a tonic character, and there had not been much loss of blood with the birth of the child.

2. That infusion of digitalis was useful to steady the heart's action, to allay nervous irritation, and also as a diuretic when aided by the addition of bitartrate of potassa.

3. That chloroform should be used sparingly.

4. That, although it was his first experience in the use of hydrate of chloral in these cases, its continuous action was apparently greater than chloroform, and he thought it was less likely to disturb the brain.

5. That, in cases in which there had been great loss of blood, or great prostration attended by nervous exhaustion, dependence might be placed upon hypodermic injections of morphia for controlling the convulsions. He would not resort to chloroform or to chloral under such circumstances, fearing that they might increase the nervous exhaustion, and thereby favour uterine hemorrhage.

The development of convulsions *after* the birth of the child was, in Dr. Hubbard's experience, quite rare.

In the last *three* cases belonging to this class which had fallen under his observation, general bloodletting had been employed in *two*, and those patients recovered; the case in which it was not employed terminated fatally, although chloroform, leeches, and dry cups were faithfully used. All the cases were primiparous.

Dr. A. C. Post referred briefly to two cases in which convulsions apparently were prevented by bloodletting. One woman at the end of the eighth month of pregnancy was taken with giddiness, headache, confusion of thought, twitchings of the features, and partial loss of consciousness. It occurred before the subject of albuminuria in connection with pregnancy was recognized in the profession. As the patient had a full, strong pulse, it was thought advisable to resort to general bloodletting. While binding up the arm for that purpose the woman fainted. Dr. Edward Delafield was called in consultation. Dr. Post expressed the opinion that the fainting was a nervous phenomenon, and did not contra-indicate the taking of blood. Dr. Delafield coincided in the opinion. She was bled freely. The headache and other symptoms disappeared, she went on to the completion of her pregnancy, and gave birth to a healthy boy who was now the father of a family. The second case, occurring many years later, had a similar history.

Dr. Sell referred to a case in which convulsions occurred during and after labour. The patient was treated by the administration of croton oil, because of suspected overloaded *primæ viæ*, and by the exhibition of chloroform both internally and by inhalation. The woman had six convulsions in the first series, and three in the second. Bleeding was not resorted to, and yet a good recovery took place.

Dr. Caro remarked that he had seen cases of puerperal convulsions at nearly all stages of pregnancy, during and after labour, and that he had never resorted to general bloodletting or to leeching except in *two* instances. He had relied chiefly upon infusion of digitalis given in ℥ss doses, three times a day, and bitartrate of potassa in ʒj doses, three times a day for their prevention.

He thought that purperal convulsions occurred as the result of nervous disturbances, especially after confinement and independent of albuminuria, or even independent of urea.

A case was referred to in which convulsions occurred apparently from urethral irritation, because they came on only when the woman attempted to pass her urine. When the urine was drawn by the catheter, convulsions did not occur. There was no albumen in the urine, the quantity of water was normal, there was neither headache nor œdema of the feet, but the countenance had a puffy palid appearance, and there was disorder of vision.

—

Arrest of Milk Abscess.

Mr. W. P. SWAIN, of Davenport, reports (*Lancet*, Aug. 10, 1878) an interesting and well-marked case of arrest of milk abscess without, however, any novelty in the method of the treatment adopted. The patient was a primipara who was delivered of a child with the aid of forceps. Thirteen days after she had a rigor followed by heat with fulness, pain, and great tenderness on pressure of right breast. This breast had been somewhat troublesome to nurse with throughout. The aspect of the patient became flushed and anxious, the pulse 120, and the temp. 103.6° F. The breast was very full, tense, and painful, especially towards the axilla, where a spot much harder than the surrounding tissues could be felt. The following treatment was prescribed. An immediate dose of ten grains of quinine; two drop doses of tincture of aconite [Br. P.] in a drachm of water every ten minutes for four hours, and then every hour; and the extract of belladonna softened with a little glycerine to be smeared over the breast. The breast was also ordered to be used. In the course of nine hours the breast had become much less tender, the pulse 88, and the temp. 101°. Five grains of quinine were ordered to be taken every four hours, and the aconite to be continued every hour. On the following day the patient was in all respects more comfortable. The child had taken the breast, which was now hardly at all tender, the hard spot having vanished. The pulse was 80 and the temp. 99.6°. From that time she progressed favourably.—*Practitioner*, Sept. 1878.

—

Amputation of the Cervix Uteri.

This is the subject of an interesting article in the *Annales de Gynécologie* by Dr. LEBLOND with the following conclusions:—

1st. That the amputation of the cervix ought to be practised with the uterus in its natural position.

2d. That the galvano-caustic method is particularly applicable to uterine cancer, although it may be equally employed in simple hypertrophy.

3d. That, in default of galvano-caustic, it is the écraseur we ought especially to choose in cases of cancer.

4th. That the scissors are preferable to the bistoury where one does not care to employ the galvano-caustic or écraseur.

[The experience of Dr. John Byrne, Brooklyn, who has had greater opportunity for investigation, and who has perfected the apparatus of galvano-cautery for uterine purposes to a greater extent, perhaps, than any one, abundantly proves that this method is not only preferable for the excision of the cervix in cancer so far as the immediate effects are concerned, but, ultimately, as a curative means is it superior.]—*Cincinnati Lancet and Clinic*, Oct. 12, 1878.

CONTENTS.

Anatomy and Physiology.

The Degeneration and Regeneration of Nerves. By Dr. Korybutt-Daszkiewicz 481
The Magnitude of the Nerve Cells. By M. Pierret 483
The Analysis of Milk. By M. A. Adam . 484

Materia Medica and Therapeutics.

The Diffusion of Salicylate of Soda. By MM. Ch. Livon and J. Bernard . 485
The Assimilation of Quinia. By M. Personne 485
The Preparation of Fats and Oils for Absorption. By J. Gad 486
Mode of Action of Cathartics By Briger . 487
Action of Iodoform. By Dr. Sigmund . 489
Therapeutic Uses of Peruvian Balsam. By Dr. E. Wiss 489
Chloral as an Anæsthetic for Children. By Dr. Bouchut 489
Chlorhydrate of Pilocarpine in Ophthalmic Practice. By Dr. Alexandroff . . 490
Belladonna in Infantile Diseases. By M. Jules Simon 491
Metalloscopy. By Prof. Westphal . . 491

Medicine.

Treatment of Anæmia and Cachexia by Assimilable Diastalized Remedies. By Dr. V. Baud 494
The Treatment of Erysipelas by Carbolic Acid Injections. By Dr. Hermann Hueter 495
Nitrite of Amyl in Ague. By Dr. W. E. Saunders 496
The Origin and Spread of Yellow Fever and the Means of Preventing it. By Dr. N. S. Davis 497
Salicylic Acid in Yellow Fever. By Dr. Hartwig Bunz 499
Treatment of Sanguineous Cerebral Apoplexy by the Subcutaneous Injection of Ergotine. By Mr. N. S. Foster . . 499
Aphasia in Children. By A. Schwarz . 500
The Pathology of Diphtheritic Paralysis . 500
Cure of Epileptic Attacks after Removal of a Tumour of the Dura Mater. By Dr. Lados 501
Contagious Pneumonia. By Dr. A. Kuhn. 502
Acute Miliary Tuberculosis. By Dr. Litten 503
Acute Malignant Endocarditis and the Concomitant Retinal Changes. By Dr. M. Litten 506
Cardiac Hypertrophy and Renal Disease. By Prof. Senator 506
The Treatment of Diarrhœa by Oxide of Zinc. By Dr. Jacquier 508
Complete Obstruction of Intestine by Croupous Inflammation. By Dr. E. Markham Skerritt 508
Cercomonas Intestinalis in the Human Digestive Canal and its Relation to Diarrhœa. By Dr. E. Zucker 509
Rupture of the Spleen due to Muscular Action. By Dr. R. Sydney Stone . . 509
Icteric Urine. By Prof. Hardy . . . 511
Abscess of Kidney treated by Aspiration. By Mr. Arthur Lucas 511

Surgery.

The Pathological Anatomy of the Lymphatic Glands. By M. Cornil 512
Use of Iodoform in Glandular Swellings and Cold Abscesses. By Dr. Moleschott 513
A Pathological Function of Periosteum. By Dr. Creighton 514
On Changes in the Medulla of the Long Bones under certain Pathological Conditions. By Drs. Litten and Orth . . 516
Removal of a Large Lipoma. By Dr. Billroth 517
The Influence of Tobacco upon the Development of Diseases of the Ear and Deafness. By Dr. Ladreit de Lacharriere . . . 518
Paracentesis Abdominis by Gradual Drainage with a single flue Canula. By Dr. Reginald Southey 519
Chronic Ulceration of the Urethra in Women. By Dr. Oedmansson . . . 521
Fifty Cases of Lithotrity. By Mr W. F. Teevan 521
Phimosis as a Cause of Rupture in Children. By Mr. J. Arthur Kempe 522
Colles's Fracture. By Dr. Hector Cameron 523
Traumatic Separation of the Epiphysis. By Dr. Voight 524

Midwifery and Gynæcology.

The Treatment of Puerperal Convulsions occurring after Labour. By Dr. S. T. Hubbard 525
Arrest of Milk Abscess. By Mr. W. P. Swain 527
Amputation of the Cervix Uteri. By Dr. Leblond 527

Published Monthly, price $2.50 *per annum, free of postage.*

Also, furnished together with the AMERICAN JOURNAL OF THE MEDICAL SCIENCES *and the* MEDICAL NEWS AND LIBRARY *for* SIX DOLLARS *per annum in advance, the whole free of postage.*

HENRY C. LEA, Philadelphia.

THE MONTHLY ABSTRACT

OF

MEDICAL SCIENCE.

VOL. V. No. 12. **For List of Contents see last page.** DECEMBER, 1878.

Anatomy and Physiology.

On the Costal Processes of the Lumbar Vertebræ.

HERMANN MEYER (*Archiv fur Anat. und Physiol.*, 1877, p. 270) carefully tests the statement made by Frenkel, that the costal processes of the lumbar vertebræ are to be regarded, not as aborted limbs, but rather as true transverse processes. The hypothesis that the costal processes are aborted ribs is a very tempting one, and is apparently well based; it is, consequently, universally spread. The statements of Frenkel are somewhat remote from the main argument, though they form an important part of its proof. Professor Meyer, therefore, seizes the opportunity of showing by actual facts, whilst he refers to the more exact of Frenkel's statements, that the large transverse processes of the lumbar vertebræ are merely transverse processes, or, rather, parts of them, and are in no respect to be regarded as ribs.

The transverse processes of the twelfth dorsal vertebra is marked by three tubercles. The upper and lower extremities of the rounded border in which the transverse process terminates are formed by a superior and an inferior tubercle, whilst an anterior tubercle lies in front of the inferior tubercle on the under surface of the transverse process below the rib. Tracing these tubercles upwards, it is seen that they become indistinct, and the anterior is rapidly reduced to a slightly rough ridge. In a good specimen the anterior tubercle of the twelfth, and slightly also that of the eleventh, dorsal vertebra appears as a spine. Passing downwards, it is readily seen that the superior tubercle becomes, in the lumbar vertebræ, the mammillary process, the inferior tubercle the accessory transverse process, and the anterior tubercle the costal process. These three processes taken together are to be considered as representing the transverse process, which in the dorsal vertebræ is in connection with the rib.—*London Med. Record*, Oct. 15, 1878.

—

Sinus Transversus of the Occipital Bone.

Professor HERMANN MEYER (*op. cit.*, p. 272) gives the following account: The right lateral sinus is nearly always broader than the left; and in close connection with this point is the degree of roundness possessed by the angle between it and the extremity of the longitudinal sulcus. The reason for these appearances has nowhere been assigned, though it is evident that the normal return of the conditions specified must be dependent upon the relation in which the transverse sinuses are placed in regard to certain other parts. The explanation is not far to seek, when these relations have been once obtained. The greater breadth of the right lateral sinus, and the rounding of its angle of departure from the longitudinal sinus, are directly referable to the fact that the stream of blood

which flows through it is stronger than the stream which flows through the left side: consequently, the right side of the longitudinal sinus is to be regarded as the chief channel. The reason why the current is stronger upon the right than upon the left side of the longitudinal sinus, is given by taking into consideration the conditions of the circulation below the neck. Regarding the direction of the blood-flow, it is seen that the vena innominata of the right side is the direct continuation of the jugular vein; whilst the vena innominata of the left side is a prolongation downwards of the subclavian. The vena cava superior, moreover, is in direct continuation with the right innominate, whilst the left innominate opens into it laterally. The venous flow of the right side from the base of the skull to the heart is, therefore, as short as it is direct, whilst that of the left side is longer by the whole length of the left innominate, and is twice interrupted by angles. The venous flow on the right side is, therefore, not only more easy in itself, but it is also assisted directly by the various forces of aspiration. From this it is readily seen that the easier course for the blood to take is through the right half of the sinus transversus, and that the flow is therefore correspondingly stronger through this part. Similar conditions producing contrary results are, however, found in the plexus pampiniformis, but the apparent contradiction can be explained by instituting a more careful comparison of the two cases.

It may be laid down as an established fact, that the varicosity of the spermatic plexus, which is shown as varicocele, occurs more commonly in the left testis. Varicosities, as is known, are due to a stoppage of the venous blood-flow, and it is easy to understand why this should occur more readily upon the left side, when it is recollected that the left spermatic vein opens into the left renal vein at a right angle, whilst the right spermatic opens into the inferior vena cava at an acute angle. This is a case similar to the flow of venous blood from the left side of the head. The surrounding conditions explain why there occur in the one case varicosities, and in the other a narrowing of the blood-path. In the veins of the head, as already seen, this manifests itself less in a diminution in size of the path on the left side, than in a corresponding widening of the course on the right side. The channel on the right side will, therefore, be used in preference; and, whilst that on the left becomes narrower from want of use, the channel on the right, being more used, will become broader. In the left spermatic plexus, on the other hand, which is situated in such peculiar circumstances that there is no possibility of a neighbouring vessel relieving it, there arise a true stoppage of the blood-current and consequent varicosities.—*London Med. Record*, Oct. 15, 1878.

—

On a Peculiar Reaction of Saliva.

L. SOLERA publishes the following note in the *Rendiconti del Reale Istituto Lombardo*, 1877, Serie 2, Tom. x, p. 371. Human saliva, whether filtered or not, whether fresh or kept for some time possesses the power of reducing iodic acid. Saliva in presence of iodic acid becomes yellow, the colour being due to the liberation of free iodine. This reaction depends upon the presence of potassium sulphocyanide which it contains; a weak dilute watery solution of potassium sulphocyanide gives exactly the same reaction with iodic acid as does saliva. This reaction is marvellously delicate, to such an extent that the author is able to detect so small a quantity as 0.0000004 *gramme* of the substance. None of the other salts which, according to the analyses of Frerichs, Jacubowitsch, and others, are present in the saliva, give this reaction, nor do the organic parts, viz., the mucus and ptyaline.—*London Med. Record*, Oct. 15, 1878.

Materia Medica and Therapeutics.

Effects of Strychnia.

In an elaborate experimental investigation on the anatomical and physiological effects of strychnia on the brain, spinal cord and nerves (*Journal of Nervous and Mental Disease*, Oct., 1878) Dr. W. H. KLAPP, of Philadelphia, draws the following conclusions:

1. Strychnia produces no appreciable primary lesion of the nerve substance proper; that secondary lesions are produced—granular disintegration—by the engorgement of the vascular system, and that this is more marked in the brain and cord than in the nerves.

2. That the convulsions of strychnia are not cerebral, and that they are much more severe after the ablation of the cerebrum, owing to the removal of Setschenow's ganglia.

3. Strychnia does not affect either the sensory or motor nerves at their periphery.

4. Both sensory and motor nerves, in their course, are unaffected by strychnia.

5. The tetanus-producing power of strychnia has its only action in the gray matter of the spinal cord.

6. In small doses, the primary action of strychnia is to excite the vaso-motor centre, causing thus a rise in the arterial pressure, and secondarily to paralyze this centre, and hence to supplement this rise by a fall.

7. In large doses, the vaso-motor centre is immediately paralyzed.

8. The slowing of the pulse, produced by the exhibition of strychnia to both warm and cold-blooded animals, is, in neither case, produced by any action on the central or peripheral ends of the pneumogastrics; but, in warm-blooded animals, is due to action on the excito-motor ganglia of the heart, and in cold-blooded animals is due to action on the ganglia situated in the sinus venosus.

9. The main vaso-motor centre for strychnia is situated in the medulla oblongata, but simpler centres exist in the spinal cord.

10. The pneumogastric nerves are *not* paralyzed by strychnia, in either warm or cold-blooded animals.

11. Strychnia decreases the number of respiratory movements; at first from too little blood, and afterwards from too much blood flowing to the respiratory centres.

12. The decrease is not due to any action of the pneumogastrics.

13. Artificial respiration always moderates, and sometimes stops, the spasms; and this power is due to a maintenance of the oxygenation of the blood until the poison can be eliminated, and is not due to a reflex stimulation of the pneumogastrics.

On the Use of Chloral-Hydrate Enemata.

Dr. STARCKE, of Berlin, has a paper on the employment of chloral-hydrate enemata in the *Berliner Klinische Wochenschrift* for August 19. He observes that there are great prejudices, especially in England, against the continued use of chloral, occasioned, probably, by the not unfrequent misadventures occurring in connection with its use in habitual drunkards. Last year Dr. Starcke himself fell ill of a chronic gastric catarrh, with great acidity of the contents of the stomach and considerable emaciation and prostration. The principal and most distressing symptom, however, was persistent insomnia, only half an hour to an hour's sleep being obtained at night. At the suggestion of his colleagues Dr.

Starcke resorted to the use of chloral, but the irritable state of the stomach forbade its use by the mouth, and hence he determined to take it *per rectum*. An aqueous five per cent. solution of chloral was warmed to about 95° Fahr., of which he injected first 10 grammes, and after a quarter of an hour a further quantity of 10 grammes, so that in all 1 gramme (15½ grains) of chloral were thus taken. This was in a few minutes followed by a feeling of warmth, comfort, and repose, and lastly by sound sleep, which lasted uninterruptedly for five hours. In this manner Dr. Starcke continued the injection of chloral for five months, taking in all 120 grammes of the drug. Decided convalescence set in after almost the very first dose, which was followed every morning by a sense of vigour and a desire for food, without any headache or other discomfort. Nor did the efficacy of the dose of chloral diminish, and latterly even half the quantity, *i. e.*, 0.5 gramme, was sufficient. Frequently the attempt was made to obtain sleep without resorting to the chloral, but in vain, until within the last month, when Dr. Starcke found he could discontinue it altogether. This employment of chloral *per rectum* has decided advantages in cases of gastric irritability. Dr. Starcke tried twice to take it by the mouth, and each time it was after a few minutes completely rejected, and no sleep ensued. The absence of all unpleasant results when administered by the rectum is doubtless due to its undergoing no decomposition, as is generally the case when it comes into contact with the contents of the stomach. Of course the drug should be absolutely pure. The sensation of burning and tenesmus which at first follows an injection, may be materially obviated by well oiling the nozzle of the syringe. And since the site of the tenesmus is chiefly in the region of the sphincter, contact of the chloral solution with this part of the gut should be avoided by passing the injection pipe as high up as possible. And if the injection is made by one's self, the position on knees and elbows will be found the most convenient. It is also of consequence that the solution should be complete, and that it should be warmed to the temperature of the body; also that the dose required is a moderate and even small one as compared with that usually given by the mouth. Dr. Starcke has subsequently used chloral in the same way in various cases and with the same uniformly safe and favourable results. It seems especially applicable in the case of aged people, and in no case need the dose exceed one gramme (15½ grains).—*London Med. Record*, Oct. 15, 1878.

—

Metalloscopy and Metallotherapy.

Professor EULENBURG, of Griefswald (*Deutsche Med. Wochenschrift*, Nos. 25 and 26), has recently made some researches on this subject. He repeated Regnard's experiments by bringing a galvanometer into connection with the skin, applying the metal plates, and then causing electric currents to pass between the two. After further experiments on six individuals, he came to the following conclusions: 1. The same plates, applied to various healthy individuals on the same parts of the skin and under similar conditions, appear to be more active in some cases than in others, sometimes having almost no effect. 2. The galvanometric intensity of the metals is by no means alike in all healthy individuals; zinc, more effective than gold in some persons, is less so in others, and *vice versa;* the proportions even vary at times in the same individuals (owing, perhaps, to some alteration in the dampness of the skin). From these facts it would appear that Regnard overestimates the importance of the electric currents.—Dr. C. WESTPHAL (*Ueber Metalloskopie, Berliner Klin. Wochenschrift*, No. 30, 1878) has also made researches on the same subject, and almost at the same time as Eulenburg. After making himself personally acquainted with Charcot's experiments, and

selecting like cases (effeminate, hysterical, hemianæsthetic individuals), he began by using silver coins, and arrived at conclusions similar to those of Charcot—namely, the return of sensibility, sometimes local, sometimes affecting the entire side of the body; and also the "transfert," *i. e.*, with increased sensibility of the anæsthetic spot, a corresponding diminution on the symmetrical spot of the opposite part of the body. He then tried the application of iron, magnetic stone, copper covered with varnish or sealing-wax, and bone-markers, and obtained similar, although somewhat weaker, results. His assistant, Dr. Adamkiewicz, produced them also by means of mustard-plaster, whilst hot water and the electric brush were used without effect. Westphal says, in conclusion, that one must admit the fact that sensibility is restored by means of metallic plates, but he doubts whether (as Eulenburg says) it takes place through galvanic currents, inasmuch as non-metallic plates produce the same results. He thinks, in opposition to Burq, that no absolute idiosyncrasy for special metals exists, because two metals may be effectual in one and the same patient. The therapeutic result is at best but limited and temporary—M. Thennes reported to the Biological Society, at the meeting of October 12th, that he had ascertained in the cases of two hysterical patients that thermal agents are capable of acting in the same way as metals and currents. With applications of ice in one case and of hot water in the other, the hemianæsthesia, achromatopsy, and contraction disappeared. The editor of the *Progrès Médical* adds in a note that similar results were obtained by the use of ice last winter by MM. Bourneville and Regnard.—*Brit. Med. Journ.*, Oct. 26, 1878.

Medicine.

Migration of White Blood-Corpuscles in Inflammation.

APPERT, in Virchow's *Archiv*, Band lxxi, p. 364, has obtained the following results in experimenting with frogs in relation to this point: 1. Quinine, in doses of $\frac{1}{350}$th to $\frac{1}{1600}$th of the body-weight, not only hinders the migration of white corpuscles at the centre of inflammation, but prevents their stagnation on the walls of the vessel. The cells which are found within the vessel have a dark appearance, and exhibit few or no amœboid changes. 2. Quinine, in a dose of $\frac{1}{1111}$th of the body-weight, injected in small quantities under the skin of the frog, in the course of three or four hours diminished the diapedesis for two to three hours without modifying the central current, and without causing the white corpuscles to leave the wall. The pulse was rendered feeble, the circulation was slowed, and the vessels were contracted. 3. Quinine in a dose of $\frac{1}{1600}$th of the body-weight had no effect. The experiments were made upon the tongue, and the author obtained the same effects by ligaturing the two arteries without the veins; a considerable tightening of the ligature gave rise to the same effects as a strong dose of quinine, whilst the ligature less strongly applied was equivalent to a weak dose of quinine.—*Lond. Med. Record*, Oct. 15, 1878.

Addison's Disease.

Dr. JOHN WYLIE (*Glasgow Med Journal*, September, 1878) describes a case of Addison's disease in a married woman, aged 39, who had noticed discoloration of the skin which had been coming on for twelve or fourteen months. She complained of general weakness, disinclination for exertion, palpitation, gastric irritability, and vomiting of a most persistent kind. She had had rheumatic fever

six years ago. Her parents were healthy; her children were all alive and healthy; she was now pregnant. The skin was "smooth and soft, of a yellowish colour, but merging into a much deeper shade in those places which are naturally the seat of pigment, such as the areolæ of the nipples, the axillæ, abdomen, etc." She died of rheumatic fever. The organs were all healthy, except the suprarenal capsules. The left was larger than the right, and on cutting through it, about a teaspoonful of yellowish pus-like fluid escaped. The normal structure of the capsule was converted into hardened cheesy nodules, which here and there grated under the knife. The right capsule was small, containing more of the pus-like fluid but less cheesy matter.—*London Med. Record*, Oct. 15, 1878.

—

Mixed Forms of Typhus.

M. Borodulin contributes to the *St. Petersburger Medicinische Wochenschrift*, for July 15, some observations on the concurrence of different types of fever founded on cases which occurred in the clinique of Prof. Botkin of St. Petersburg. The simultaneous invasion and course of several forms of fever in the same individual are at the present day by no means generally acknowledged, some regarding the occurrence of these mixed forms as beyond all doubt, while others as stoutly deny it. But after the late epidemic of relapsing fever in St. Petersburg, the possibility of relapsing being superadded to other forms of typhus fever was admitted in the clinique of Dr. Botkin. Clinical observation showed marked peculiarities in the course of abdominal exanthematic typhus, which pointed to relapsing fever, such as oscillations of temperature, sweats, only slight typhoid impairment of the sensorium, clinically well-marked alterations in the liver and spleen, primary brick-red petechiæ occurring at the very commencement of abdominal or exanthematic typhus. During the epidemic of the present year, the blood of all the typhus patients in the clinique was examined with a view to ascertaining whether it contained spirillæ, whose presence has hitherto been regarded as pathognomonic of relapsing fever. They were found in four cases of a mixed form of abdominal typhus, and in one of exanthematic typhus. That spirillæ were not found in the blood of the other cases may be due partly to want of time for a minute examination and to the difficulty of finding them; since their quantity is in direct proportion to the amount of the specific blood-poison of relapsing fever, for the nearer the disease approaches to true relapsing fever the greater the number of spirillæ, and *vice versâ*. The following is an abstract of the five cases alluded to:—

Case I.—P., aged nineteen years, was received into the clinique on the fourth day of the disease. The commencement of the illness was gradual, without rigours. Even on the evening of the third day the temperature was 104.7 F., the next morning 104 F., and in the evening again 104.7. His general strength was still excellent; the sensorium was clear; there were a few petechiæ and rose spots; the spleen and liver were considerably enlarged and tender; the heart was somewhat enlarged transversely. He had slight icterus. There were traces of albumen in the urine He had slight delirium on the night of the fourth day. On the fifth day a few spirillæ were found in the blood. On the sixth day, besides nocturnal delirium, there was also impaired intellect during the day, which, though slight to the twenty-fifth day, thereafter increased considerably, and continued so till death. On the eighth day he had bronchial catarrh. On the nineteenth there was right-sided hypostatic pneumonia, extending to both lungs on the twenty-third day. The amount of albumen in the urine increased gradually; cylindrical casts were found, and the albumen only diminished towards the end of the disease. The temperature ranged from the fourth to the twen-

tieth day between 102.2 F. (only once) and 104.9 F. In the night of the fifteenth to the sixteenth day he had a severe rigour; and on the following morning spirillæ were again present in the blood. In the night, from the nineteenth to the twentieth day, he had again rigours, with subsequent sweating and reduction of the temperature from 104 F. to 100.4 F. On the morning of the thirty-first day, the temperature fell after profuse sweating from 105.2 to 98.8 F. From the thirtieth day, the impairment of the sensorium increased considerably. There was subsultus tendinum. On the thirty-third day there was suppression of urine, with extreme weakness, ending in death on the thirty-sixth day.

Necropsy.—There were œdema of brain-substance, hypostatic pneumonia in both lower lobes, and lateral dilatation of the heart, with flaccid walls of a grayish-yellow colour; the valves were normal. The spleen was much enlarged; its parenchyma was anæmic, firm; near the surface was a recent blood-clot. The liver was also much enlarged; its parenchyma was of a grayish-yellow colour, indistinctly marked. The right kidney was enlarged; the capsule was loosely adherent; the cortical substance was expanded, gray, friable, with small puriform dots; the calyces were dilated; from the pyramids an opaque fluid could be expressed. The left kidney was similarly altered, with the exception of the puriform dots. In the ileum were several ulcers reaching to the muscular coat, and corresponding with Peyer's patches. The mucous membrane of the stomach was pale, with small extravasations.

Case II.—S., aged 19, was received on the ninth day. The invasion of the disease was gradual, so that the patient, a student, attended lectures on the sixth day. On the seventh and eighth days he had nocturnal sweating. The liver and spleen were much enlarged, and tender. There were some petechiæ and rose-spots. The sensorium was free; a few spirillæ were found in the blood; there was no albumen in the urine. Otherwise the case presented nothing unusual. The temperature became normal on the twenty-fifth day; the liver and spleen remained enlarged till the thirty-sixth day.

Case III.—M., aged 21, female, was admitted on the sixth day. She fell ill suddenly. On the first day there was great heat of surface, without preceding rigours, and headache. On the fourth day the morning temperature was 102.9 Fahr., and the evening temperature was 104 Fahr. In this case also were found primary petechiæ and rose-spots on the abdomen. The liver and spleen were not so much enlarged as in Case 2. These and the laterally somewhat enlarged heart were tender on percussion. On the seventh day, some spirillæ were discovered in the blood. There was slight tendency to sweating; the temperature was that of abdominal typhus.

The next two cases present more symptoms of relapsing fever, and spirillæ were found in increased numbers.

Case IV.—E., a student, was received on the sixth day of the disease. The commencement of the disease was gradual, without distinct shivering. The morning temperature was 103.9 F.; evening, 104.7 F. The liver and spleen were moderately enlarged; he had slight roseola, and bronchitis; the sensorium was slightly clouded. On the seventh day there was an increase of eruption, and of mental impairment, with diarrhœa; there were no spirillæ in the blood. Up to the ninth day the temperature ranged between 103.1 and 104.9 F.; on the morning of that day it stood at 104.9, but now declined after copious sweating to 96.8 F. by 3 P. M., and rose again in the evening to 104 F. On the tenth day the eruption vanished almost entirely, but the senses became more and more clouded till the fifteenth day. On the fourteenth, fluctuation became perceptible in the lower abdomen, and the diarrhœa ceased. Up till the sixth day the temperature gradually sank in 48 hours to 97.3 F. He had daily sweats from the fourteenth to the

nineteenth day. The low temperature continued about 48 hours; for on the evening of the seventeenth day it again rose from 96.1 in the morning to 101.6 F. During the following two days the temperature continued of the same remittent character, 99.3-103.1; 99.1-103.6 F. On the nineteenth day the patient began to shiver, and the spleen became enlarged. On the twentieth day the temperature was, in the morning, 101.3, in the evening 104.9, with severe rigours. Numerous spirillæ were now found in the blood; on the next (twenty-first) day he again had rigours, with spirillæ in the blood; in the evening, sweating, with fall of temperature to 97.9 On the twenty-second day the morning temperature was 99.5, rising after a rigour to 106.3 F. From this day to the twenty-seventh day there was increased temperature every evening, with almost normal morning temperature. Indeed, on the twenty-fourth day, both morning and evening temperature was normal. But from the twenty-seventh to the thirtieth day there were high temperatures both morning and evening. After this the temperature rose only once to 100.4 F., and then declined to about 98.6, until the dismissal of the patient. This case is therefore evidently of a mixed character. Against a pure relapsing fever are the gradual beginning of the disease, the typhoid condition, continuing to the fifteenth day, the marked rosy eruption, and the absence of petechiæ. It also differs from pure exanthematic typhus in the decline of the temperature on the ninth day to 96.8, after sweating, followed by a rise on the same evening; also in the spirillæ found in the blood during a paroxysm of high temperature lasting five days; and, lastly, in a third rise of temperature after a remission of 24 hours, and a continuance of high temperature from the twenty-fifth to the twenty-ninth day, on which latter day it attained its maximum, after which it rapidly declined.

CASE V.—G., aged 23, sister of charity, was admitted on the fifth day of the disease. This began with severe rigours, as in true intermittent. On the evening of the day of admission, the temperature was 104.0. The liver and spleen were enlarged with considerable jaundice; primary petechiæ were present. The next morning large numbers of spirillæ were found in the blood. In the night from the seventh to the eighth day there was a critical decline of temperature from 104 to 99.2 F., after profuse sweating, but in the evening it had again risen to 100 F., and now continued on the average somewhat above the normal. On the sixteenth day there was again severe shivering, and considerable numbers of spirillæ were found in the blood. This paroxysm continued four days, and was then followed by copious sweating, and a rapid decline of temperature from 104.5 to 98.6 F. The temperature now continued normal for two days and a half, when it again rose, assuming a remittent character with morning remissions and evening exacerbations, until the twenty-ninth day of the disease. On this day temperature fell, after sweating, to 98.6 F., and continued normal thereafter. This case differs from the usual course of true relapsing fever in the continuance of pyrexia between the first and second attacks, and in the somewhat long period with relapsing fever after the crisis of the second attack, when the course of the temperature somewhat resembled that of abdominal typhus.—*Lond. Med. Record*, Oct. 15, 1878.

Testis in Typhus.

M. FENOMENOW (*St. Petersburger Medicinische Wochenschrift*, July 8), has examined the testes in twelve cases, of which five died of exanthematic typhus, three of abdominal typhus, two of bilious typhoid, and two of a mixed form of abdominal typhus and recurrent fever. The best preparations were obtained by hardening in alcohol, the sections were stained with hæmatoxylin and mounted with glycerine. The changes observed were in the epithelium of

the seminal ducts, and the epithelioid lining of the bloodvessels. In both it consisted of enlargement of the cells, obscurity of outline, nuclei obscured by granular masses soluble in ether. The changes in the vessels appeared to precede those in the ducts. In some places there were small hemorrhages, but these are not specially described.

[The importance of these observations is somewhat diminished by the results of Dr. Litten's experiments (Virchow's *Archiv*, May, 1876; *Monthly Abstract*, Dec. 1877, p. 541), which showed that such fatty metamorphosis of the tissues was the constant effect of high temperatures.—*Rep.*]—*London Med. Record*, Oct. 15, 1878.

—

Case of Cerebral Rheumatism with Catalepsy.

In *Lo Sperimentale* for March, Dr. MANCINI relates the case of a blacksmith, aged 33, who, after having had four slight rheumatic attacks, was seized in September, 1877, after sweating profusely, with *malaise*, weariness, loss of appetite, and pain and swelling of the knees and feet. He had nearly recovered, when he was one morning awakened by the noise of an alarm clock in an adjoining chamber. From this time he became fond of solitude, taciturn, reserved, inimical to all human intercourse, desirous of neither food nor drink; and he complained also of severe headache.

When received into hospital on December 11th, he was noted to be of robust constitution, well formed, but imperfectly nourished. He lay on his back; his face was without expression. He did not answer questions, and did not move when threatened. The eyes were fixed, and the pupils insensible to light. Sight and hearing were normal; the sense of smell was impaired. The sensations of heat and pain were lost. Reflex motion was absent. Galvanic and faradomuscular contractility was increased. Speech was impossible; the rectum and bladder were paralyzed. The trunk and limbs remained in whatever position was given them.

Considering the previous attack of articular rheumatism, and the sudden appearance of the nervous disorder during convalescence from this disease, Dr. Mancini believes that the case was probably one of cerebral rheumatism.

The treatment consisted in the administration of infusion of lime-flowers as a diaphoretic, and the application of sinapisms to the lower extremities. The man soon improved; all morbid symptoms disappeared; and, ten days after he was admitted to hospital he was perfectly convalescent.—*London Med. Record*, Oct. 15, 1878.

—

Ignored Syphilis.

Dr. FOURNIER, in a lecture delivered at the St. Louis (*Gaz. des Hôp.*, August 8), observed that the great frequency of cases of *syphilis ignoré*, and the practical importance of its study, induced him to bring it before his class.

A patient presents himself with what, after careful examination, appears to be a syphilitic affection, but on interrogating him, and cross-questioning him in every way, he stoutly denies ever having had the pox. Still, confident in the objective signs observed, specific remedies are administered, and in a few days the lesion, which had been menacing, and even progressing rapidly, is almost cured. The result renders the accuracy of the diagnosis certain. The patient has had syphilis without knowing it, furnishing an example of *syphilis ignoré*. At first sight this appellation seems contrary to common sense, for so complex a disease, characterized by such multiple symptoms, can scarcely be supposed to pursue its course unperceived. And yet not only may this be so, but it frequently

is so. In fact, the profession has ceased to take the denial of the patients into account, and treats their cases solely from the aspect they present. At St. Louis *syphilis ignoré* is of such frequent occurrence, that during five months of the present year, in Dr. Fournier's service alone, there have been twenty-eight persons the subjects of syphilis without being aware of it, and that when only counting tertiary syphilides and the most obvious cases. As is always the case there, the treatment has confirmed the diagnosis.

These cases are much more commonly met with among the common people than in the well-to-do classes, which is but a natural result of the differences in situation, education, and the care of the person. The aristocracy and mercantile classes are pretty well informed on the matter of syphilis by means of reading and conversation, and even by the advertisements in the newspapers. They keep a sharp lookout, and on the slightest alarm have the time and money to get themselves at once treated. It is quite different with the lower classes, whom the absence of education, carelessness, indigence, and their daily toil, expose much more easily to the occurrence of *syphilis ignoré*. It is also incomparably more frequent in women. A man is much more conversant with syphilis; he knows from his youth that this is his enemy, and he is often acquainted with it before being exposed to its dangers, "were it only by the classic visit to the Musée Dupuytren, which some fathers of families consider it a duty to make their sons pay on quitting school." Thus forewarned, men have much less chance of failing to recognize syphilis. But women live in complete ignorance of these things, to which they are utter strangers. How many honest women there are, and even mothers of families, who do not even suspect the existence of this disease! But this very ignorance, if they become the subjects of it, exposes them all the more to a non-recognition of their enemy. Of the twenty-eight cases above alluded to, twenty-two were women and six men.

Thus syphilis may remain ignored, and this may be explained by numerous reasons, the principal of which are: 1. That a certain number of cases of syphilis fail to be recognized because they have a non-venereal origin. In the eyes of most people the idea of syphilis is necessarily connected with an impure sexual intercourse; and when the disease is in any other part than the genitals, it is firmly believed to be due to something else. Little notice is taken of it, and it is allowed to run on until serious tertiary symptoms enforce the diagnosis. There are, in fact, many causes of non-venereal origin of syphilis, as contact with syphilitic children; domestic contagion, from the use of a pipe, spoon, etc.; professional contagion, as with doctors and midwives; contagion by surgical instruments or by certain operations, such as Eustachian catheterism, the use of the bistoury, the speculum, serre-fines, etc.; contagion by vaccination, etc. Any of these forms of syphilis may remain ignored, even by those whose very occupations ought to prevent their overlooking them. "In fact, doctors and midwives are often surprised in this manner. I knew a midwife who had a syphilide on her finger without being aware of its nature; and one of my fellow-students, now a very distinguished physician, had on his finger a well-characterized syphilitic lesion for more than six months, which he regarded as an anatomical tubercle. If practitioners allow themselves to be deceived in this way, how much more are people of the world liable to overlook an attack of syphilis!" 2. Syphilis may remain ignored because its symptoms have been overlooked or its nature has not been demonstrated. The symptoms of syphilis, in fact, are not always so evident or special even that the practitioner can pronounce at once upon them. A well-marked case of syphilis, with chancre, bubo, roseola, alopecia, cephalalgia, articular pains, iritis, etc., may still be mistaken for another affection. The chancre, especially if superficial, may be overlooked, or mistaken for some trifling hurt,

even in men, and especially in women when it is placed on the cervix uteri. Bubo, in its nature indolent, is generally ignored; and the syphilides, being unattended with pruritus, do not give rise to pain or itching. Roseola is almost always overlooked by the patient until it has been pointed out to him; and so on with the various other symptoms, which, when not overlooked, are attributed to various causes; so that, in fact, the syphilitic patient with the most perfect faith may easily believe that he is not the subject of syphilis. 3. Syphilis is the more liable to be ignored when the original symptoms are benign and the secondary ones have scarcely existed. A long silence follows this period, which has only been characterized by a more or less ephemeral roseola and a few patches in the throat; then, ten or fifteen years afterwards, some grave accident supervenes, which leads to the discovery of the diathesis. 4. In women syphilis is the more likely to remain ignored, since all that is possible is done to hide the nature of the disease from them. The husband or the lover entreats the surgeon to treat his victim without revealing to her the cause of her malady; and amidst this "true conspiracy of silence" she becomes cured of her *syphilis ignorê*.

The practical conclusion is, that there exists a certain number of cases of syphilis, the diagnosis of which must be arrived at exclusively from the character of the lesion under observation, in spite of the silence of their history and the denials of the patients. Whenever the practitioner finds himself in the presence of such a case, in which all antecedent is denied, he should submit the patient to a second and even a third scrupulous examination, comparing the signs present with those which might be furnished by other diseases. But, having convinced himself that the lesion is syphilitic, he should institute its specific treatment in spite of the denial and even the most earnest protests of the patient. The experience of his predecessors and daily clinical teaching establish his right and duty. "The science of the physician," in the words of Ricord, "is above the assertions of the patient." The doctor affirms and the patient denies; but there is infinitely more chance that the former will be found right.—*Med. Times and Gazette*, Oct. 5, 1878.

—

Case of Cerebellar Disease.

In Betz's *Memorabilien*, xxiii Jahrgang, Heft 5, Dr. KELP relates the following case, and makes some remarks upon it.

J. H., a peasant, aged 36, had been intemperate in his habits for four years; during that time he often complained of pains and twitching in his limbs, was confused in his mind, and said strange things, *e. g.*, that a workman in the house had bewitched him. For the last year he had become easily fatigued, and his gait was not quite steady, so that he was often obliged to rest while walking; he was also forgetful and dreamy. Quite recently he had become very excited, was unable to sleep, and destroyed his bedding. There had been no other cases of insanity in the family.

About a month after this excitement came on, he was admitted into the asylum at Wehnen. He was then very "lost," did not know where he was; his gait was very unsteady, it resembled that of a drunken man, and he tended to fall *backwards*. There was general muscular tremor; the eyes were dull, pupils equal, face congested, and nose very red. He was unable to answer any question, dressed and undressed himself listlessly, was dirty in his habits, and uttered inarticulate sounds. His appetite was good; pulse 100. He remained for several days in bed, as he was subject to attacks of vertigo. After two months, hæmatoma of the right ear was developed, paralysis of the lower extremities came on, and the patient fell towards the left side; the right side of the face was drawn

down; the skin was remarkably cold; pulse 50. The paralysis continued to increase, the surface-temperature to decrease; the pulse sank to 36, the temperature to 80, and death took place after little more than two months' treatment.

After death, the head only was examined. The dura mater was much thickened throughout, and bound to the pia mater by adhesions which required the knife to divide them. The pia mater was firmly adherent to the cortex, its vessels injected. The cerebrum was normally formed, of firm consistence; no proliferation of tissue could be detected. The cerebellum weighed a little over five ounces; both its hemispheres showed extensive softening; where this was most marked, the tissue was of a bright gray colour. The left hemisphere was affected more extensively and in a greater degree than the right; in the centre of the left posterior superior lobe there was a spot of softening, of the size of a walnut; the surrounding tissue was also affected, but in a less degree. The arbor vitæ was ill-defined and discoloured, but the medullary substance and the connections with the medulla oblongata, corpora quadrigemina, and pons Varolii were of normal consistence. The softening in the right lobe was in the same situation as in the left; the arbor vitæ appearance was fully developed, and the surrounding tissue normal. The pons Varolii, olivary bodies, and medulla oblongata presented no morbid changes.

The abuse of stimulants must be regarded as the chief cause of cerebellar disease in this case; the most characteristic symptoms were the staggering gait resembling that of drunkenness, the attacks of giddiness, the tendency to fall backwards, and the tremor of the limbs. The confused state of the patient's mind must be ascribed to the affection of the cerebrum and its coverings, and the motor symptoms to the organic changes in the cerebellum.

In a recent paper on cerebellar disease (*see Monthly Abstract*, Aug. 1878, p. 350) Professor Nothnagel gives his support to the view that disturbances of co-ordination are caused by morbid changes in the cerebellum, but he also states his opinion that these disturbances of co-ordination only occur when the median lobe (vermiform processes) is directly or indirectly affected by the disease. Dr. Kelp holds that his case quite disproves this proposition, as he states that the vermiform processes were in no way affected, though motor disturbances were present.

As the spinal cord could not be examined, it was not determined whether the tabic gray degeneration of its columns was present. The author thinks that this would not have been found, for the gait of a tabic patient lacks the peculiar resemblance to that of the drunkard which was observed in this case. The marked trembling of the extremities and the rapid development of the disease are also points against the diagnosis of tabes.

For some time before his death the patient's body was constantly rotated towards the left side, and this twisting always recurred immediately after it had been righted by force. This symptom is ascribed by Kelp to the fact [apparently contradicted in the above report of the *post-mortem* appearances—*Rep.*] that the middle peduncle of the cerebellum, or the fibres radiating from it into the cerebellum, was involved in the morbid process.—*London Med. Record*, Oct. 15, 1878.

—

Reflex Paralysis.

At a meeting of the Royal Medico-Chirurgical Society of Naples (*Il Morgagni*, 1878), Dr. F. Vizioli presented a man suffering from reflex paralysis. The patient, a healthy robust man, aged 48, had been struck in the front of the neck by a knife, which produced an extensive but superficial wound. In the evening he perceived numbness on the right arm and shoulder, which soon became incapable

of motion. When he was shown to the society, four months after the injury, motion was almost abolished in the right arm, and there was marked emaciation of all the brachial and scapular muscles. Electro-muscular sensibility was slightly increased in the paralyzed as compared with the corresponding sound parts; there was no alteration in the sense of touch, nor in the sensations of heat or pain. Electro-muscular contractility, faradic and galvanic, was normal even in the paralyzed and atrophied muscles. The temperature of the affected muscles was slightly lower than that of the healthy ones.

The author, considering that the retention of electro-muscular contractility indicated a central lesion, on which the atrophy of the muscles of the arm and shoulder depended, and that there was no concussion or fall, and thus reducing the cause of the malady to the wound received, concluded that the cutaneous irritation produced a process of irritation in the medulla—that is to say, hyperæmia of the meninges and capillary apoplexy in the spinal cord; and that this explains the rapidity with which the paralysis appeared a few hours after the injury.

As regards the atrophy, he refers it to the impaired trophic influence of the medulla rather than to defective functional energy in the muscles.—*Lond. Med. Record*, October 15, 1878.

—

An Account of a Demonstration of the Phenomena of Hystero-Epilepsy; and on the Modification which they undergo under the Influence of Magnets and Solenoids.

On the mornings of August 23d and 24th several physicians and scientific men, amongst whom were Professors Virchow, Grainger Stewart, Turner, Oscar Liebreich, Ray Lankester, Dr. Broadbent, Mr. Ernest Hart, etc., who happened to be in Paris, met in Professor CHARCOT'S wards in the great hospital of La Salpêtrière, and had the privilege of being present at a demonstration in which this distinguished physician brought under their notice all the remarkable features of hystero-epilepsy—that remarkable disease almost all knowledge of which is due to the labours of M. Charcot. In these demonstrations, the remarkable influence of solenoids and of magnets upon the diseased organism was exhibited, no less than the ready induction of the so-called *mesmeric* and *cataleptic* conditions in these patients. All the phases of the remarkable hystero-epileptic convulsions were repeatedly observed.

Such was the interest awakened by these remarkable demonstrations, that Dr. ARTHUR GAMGEE, Brackenbury Professor of Physiology in Owen's College, Manchester, has given the following account (*British Medical Journal*, Oct. 12, 1878) of the principal facts which were brought under their notice on the occasion of the second demonstration.

In order that the description of these facts may be the more intelligible to those who are unacquainted with even the salient points in the natural history of hystero-epilepsy, I will summarize these briefly, as follows: Hystero-epilepsy is a nervous disease of women of great rarity, affecting them especially during the child-bearing period of life; sometimes, though rarely, occurring before the actual commencement of menstruation, and continuing after its cessation. It is associated with hyperæsthesia in one or both ovarian regions, and is usually attended by hemianæsthesia, and more rarely by anæsthesia of both sides of the body. There is some, if not complete, loss of tactile sensibility, and usually absolute insensibility to pain (analgesia) of skin, and all other sensitive structures on the affected side; the muscular sense being, however, nearly always preserved. There is some degree of paresis of the affected limbs. The loss of sensitiveness may or may not affect the organs of special sense; it frequently does so affect

the eye, which becomes affected with a remarkable form of colour-blindness (achromatopsia). It is characteristic of the heminæsthesia of hystero-epilepsy that by various means—action of magnets, solenoids, metallic plates—it may be momentarily diverted from the affected side, which then regains its normal sensibility, and transferred temporarily to the opposite side of the body. The essential and pathognomonic sign of the disease is the occurrence of attacks, which present remarkable phenomena in a definite order; at first epileptiform, then affecting the mental functions of the patient, who by gesture and actual utterance, reveals to the spectator various phases of emotional activity. The disease usually does not tend towards recovery, though recovery occasionally occurs. It may continue for many years without any perceptible influence upon the health or mental condition of the patient, and when death occurs it appears to result from intercurrent disease, which, in relation to the primary disease, may be termed accidental.

Having thus sketched boldly and without detail the main features of a disease, the study of which shows, as the reader will soon learn, how scanty are our physiological conceptions of the nervous system, I present the following simple narrative of that which I saw and heard on August 24th.

I. *Induction of the Mesmeric Condition in a Patient affected with Hystero-Epilepsy.*—Being assembled in the laboratory attached to his wards, Professor Charcot brought before us a young patient, aged 20, affected with hystero-epilepsy. In this patient, there exists left-sided hemianæsthesia, which is associated with hyperæsthesia in the right ovarian region. (By perusing the account afterwards given of the convulsive attacks of hystero-epilepsy, the reader will understand the grounds for the diagnosis of the ovarian irritation in these cases.) Professor Charcot brought this patient before us to demonstrate that usually it is possible in patients affected with hystero-epilepsy to induce the mesmeric condition. The patient being seated opposite to him, at the distance of about two feet, he steadily maintained the index finger of his right hand at a short distance from the centre of her forehead; she was directed to look steadily at the finger, and did so. Several minutes elapsed (the time was not actually noted), and the patient did not seem sensibly affected. She declared that "to-day she had no desire to sleep." At 10.4 A. M., the previous attempts, which may have lasted ten minutes, having failed, Professor Charcot, placing his head on a level with that of the patient, commenced to stare fixedly into both her eyes. At 10.6, the eyelids drooped, and, at the same time, began to wink in a rapid tremulous manner; this phenomenon continuing throughout the whole duration of the induced sleep, and being, Professor Charcot remarked, constant; at the same time, a tonic contraction of the flexors of both forearms occurred, the fists becoming temporarily clenched. At 10.7, the patient being asleep, Professor Charcot told her to rise and take a chair. She did so, her eyes being closed and her eyelids tremulous. Having seated herself, he told her to write her name. Pen, ink, and paper being furnished her, she sleepily wrote her own name, and afterwards, when ordered, Professor Charcot's, her eyes remaining closed the whole time. Whilst writing, the skin over the right wrist was transfixed by a thick needle, but the patient appeared quite unconscious of the operation, continuing to write with the needle *in situ*. It is to be remarked that, during the mesmeric state, the patient is anæsthetic on both sides of the body; whilst, in the waking state, it is only the left side which is anæsthetic. At 10.10, Professor Charcot told the patient to begin to sew. A half-hemmed towel was handed to her, and she at once commenced to sew with great dexterity and rapidity, co-ordinating admirably the movements of the two hands. The patient was then told to rise and go into an adjoining room used for photography; she did so, and, on her way, having to

descend a step, she walked with caution and safety, her eyes being still closed. Being bidden to retrace her steps, she obeyed, and came into the room in which we were all assembled, and, turning towards the wall, remained standing listlessly, fast asleep. Professor Charcot then blew into her eyes, when she awoke. The act of awaking, in her case and in that of all hystero-epileptics who have been thrown into the mesmeric sleep, is accompanied by a peculiar reflex; there is an automatic and sudden act of expulsion of saliva—as it were a slight effort to spit.

II. *Instantaneous Induction of the Mesmeric Condition in a Patient affected with Hystero-Epilepsy; Subsequent Induction of the Cataleptic Condition; Hemianæsthesia and Colour-Blindness; Action of a Solenoid.*—An anæmia young girl, aged about 20, was next brought before us. The disease in her case had had for its origin terrible scenes of which she had been the witness during the Commune. It is to be noticed that nearly all, if not all, cases of hystero-epilepsy appear to have been connected with fright or anguish. In this patient, there was complete right hemianæsthesia, with colour-blindness affecting the eye of the same side, with which she could only distinguish red. When papers of various colours were brought before her, the left eye being kept closed, she described all, excepting the red paper, as being of a dirty-white or white colour. There was complete analgesia on the right side, so that a needle could be thrust through the hand without occasioning the slightest evidence of pain. The skin of the opposite side was normally sensitive. A spiral insulated wire—a solenoid—connecting the two poles of a large single carbon-zinc and chromic acid element was now made to envelop the little finger of the right hemianæsthetic side. Almost instantaneously, the sound side became hemianæsthetic and the previously normal eye became colour-blind for all colours but red, whilst the power of distinguishing colours on the usually colour-blind eye became perfect. No sooner, however, was the finger withdrawn from the solenoid, than the anæsthesia and achromatopsia reassumed their usual distribution.

This case, as M. Charcot pointed out, was not only remarkable for the extreme rapidity with which the action of the current was developed, but also for the surprising readiness with which the patient could be thrown into the mesmeric and cataleptic conditions, as he proceeded to show. It sufficed merely to open the patient's eyes and stare into them for an instant, to throw her into a profound sleep, from which she could be aroused by certain stimuli, and especially by blowing into the face, when the peculiar reflex noticed in Case I. was produced. That the instantaneous production of this mesmeric state was not due to any special influence of M. Charcot was evidenced by his allowing me to repeat his procedure, when instantly the same result followed.

The patient was now taken into a darkened room, in which a spiral of platinum heated by a powerful gas blow-pipe emitted a light almost as intense as the magnesium light. If she stared into the flame for an instant, she immediately fell asleep, and passed into a cataleptic condition; her limbs, placed in the most unnatural positions, retained these until some one moved them into a new attitude.

But the most singular fact observed in connection with the cataleptic condition of this patient was the following: If, whilst deeply sleeping and cataleptic, any one stealthily approached one of his fingers or thumbs to within a short distance —about half an inch—of the patient's skin, as, for example, of the palm or back of the hand, she instantly awakened with a cry of "Ah!" evincing by its tone evident mental anguish, if not actual physical pain. When thus awakened, the patient had merely to stare at the bright light instantly to return into the cataleptic condition. We had the opportunity of observing that when she happened to be very close to the light, and watching it very intently, the approach of a

finger to the skin sometimes had no effect, and that it was only after repeated approaches that she awoke, though always in the manner previously described.

Before leaving this singularly striking case, it may be remarked that Professor Charcot was led to try the action of a spiral wire traversed by a current on the hemianæsthesia of hystero-epilepsy because of the already discovered influence of magnets, which will be illustrated in the sequel, and from the fact of the physical analogies of solenoids and magnets.[1]

III. *Hystero-Epilepsy in a Woman aged 54, and who is blind; Cessation of Fits for the last two years, but Continuance of Hemianæsthesia of the Right Side.*—The case of this patient is of peculiar interest, as she has been an inmate of the Salpêtrière since the year 1846, and her case has been studied with remarkable accuracy. It will be found fully narrated, and the account illustrated with many drawings, in Dr. Bourneville's *Recherches Cliniques et Thérapeutiques sur l'Epilepsie et l'Hystérie. (Compte-rendu des Observations recueillies à la Salpêtrière de* 1872 *à* 1876. Paris, 1876.) This woman has, it would appear, been a hystero-epileptic for forty-three years of her life. She was formerly subject to the most characteristic attacks of hystero-epileptic convulsions, which underwent, in the period during which she was under observation, very remarkable transitions. The disappearance of the menses was not immediately followed by a cessation of the fits; on the contrary, as would appear from Dr. Bourneville's record, in the year following the cessation of menstruation, the fits were more frequent than they had ever been, the utmost frequency being, however, reached in the fourth year after. Since 1876, however, the fits have not recurred; and now there only remains the absolute analgesia of the left side. This patient is quite blind, owing to inflammatory affections occurring in childhood, and is of very deficient intelligence. There is absolute analgesia of the left side. A needle could be thrust through the left hand or arm without occasioning any sensation. Sensibility is, however, tolerably perfect on the right side.

The patient being seated, the two poles of a tolerably large horseshoe magnet were brought to within a third of an inch of the skin of the forearm on the affected side. From time to time, the sensitiveness of the two arms was examined by pricking with a needle. After some minutes, the arm in proximity to the magnet had regained its sensitiveness, the patient complaining bitterly when a needle was merely pressed against the skin, without pricking it, whilst the arm of the right side had become completely anæsthetic, and could be transfixed with a needle without the patient being aware of the fact. It is to be remarked that at no time during the observation did the arm touch the magnet, which was kept at a distance varying between a quarter and one-third of an inch. It might be surmised, M. Charcot remarked, that the effect exerted by the magnet was one which might be exerted by any mass of iron; not so, however. If, for instance, the convex neutral end of the horseshoe be turned towards the arm, instead of the poles, none of the effects previously described follow.

IV. *Hysterical Contraction of the Left Arm cured by the Systematic Daily Magnetization of the Right Arm; Ovarian Hyperæsthesia of the Left Side.*—In order to illustrate the curative action of the magnet, Professor Charcot brought before us the case of a nun who had been admitted into the Salpêtrière for a hysterical contraction which had lasted nine months. On admission, there was found to be a powerful tonic contraction of the flexor muscles of the left arm;

[1] Sur l'Action Physiologique de l'Aimant et des Solenoides, par MM. Charcot et Regnard. Communication faite à la Société de Biologie, Séance de 6 Juillet, 1878. *Le Progrès Médical*, No. 32, 10 Août, 1878, p. 817 et seq.

there was also anæsthesia of the same arm; there was some hyperæsthesia of the left ovary.

Professor Charcot some time ago applied the magnet, as in Case III., to the right arm; to his surprise, he found that the contraction of the left arm disappeared during the application, but was transferred to the right side. By repeating the proceeding daily, the hysterical contraction of the left arm is gradually disappearing; and after the magnet has been some time in proximity with the right arm, the left is found to present merely a condition of slight paresis; whilst the right becomes firmly contracted. The contraction of the right arm, thus artificially induced, lasts the whole day.

We have in this case the first example of a method of treatment which will probably be very generally successful in cases of hysterical contractions.

V. *Hystero-Epilepsy; Absolute Cutaneous Anæsthesia and Analgesia of both Sides of the Body; Achromatopsia of both Eyes, but especially of the Left.*—In this case, by transfixing the skin with needles, M. Charcot showed that analgesia existed on both sides of the body in an absolute degree. The patient, a fine, tall, powerful, and very healthy looking girl, was quite unaware of these operations, unless her eyes happened to fall upon the transfixed spot, when she appeared to resent the act by a pouting, impatient, and almost childlike behaviour.

In this patient, the condition of achromatopsia presents features of great interest. With her right eye she can distinguish all colours but violet. It is to be noted that in the colour-blindness of hystero-epilepsy, violet is the colour which is most easily lost; in other words, in the very slightest cases, where all other colours are distinguished, violet cannot be seen. With her left eye the patient can distinguish no colour but red. Red and blue, M. Charcot has found, are the colours which persist most, except in those cases where achromatopsia is absolute, and in which, therefore, the patient sees a coloured picture, however bright and varied its tints, as if painted in black and white; there is found to be a persistence of sensibility to red rays.

Having repeatedly demonstrated the exact condition of colour-blindness of the two eyes of the patient, Professor Charcot placed at a distance of about one-third of an inch from the left temple (*i. e.*, on the side where the achromatopsia was all but absolute), the two poles of a horseshoe magnet. This was at 11 A. M. At 11.5 A. M., on pricking the skin of the left side of the head, which previously had been insensitive, there was slight evidence of sensibility. Her left eye is tested, and the patient is found to be still colour-blind for all colours but red. At 11.6 A. M., when a blue sheet is placed before her eyes, she sees it as white, except at the four corners, which appear slightly blue. She cannot distinguish yellow, green, or purple, even at the corners. 11.7 A. M.—She sees blue all over the sheet; and sees yellow as white, except at the corners. She cannot distinguish green or purple. 11.13 A. M.—She cannot yet distinguish green. 11.13.30 A. M.—She begins to distinguish green at the corners of the paper. 11.14.30 A. M.—She distinguishes perfectly all colours except violet. *On now examining the right eye, it is found to be perfectly colour-blind, except for red.* There has, therefore, under the influence of the magnet applied at an appreciable distance from the temple on the side of the colour-blind eye, been a transference of the affection to the sound side. It may be added—and the fact appears most worthy of remark—that the disappearance of the power of appreciating particular colours on the sound side coincides exactly, in point of time, with the reappearance of the sensitiveness for the same colour in the usually colour-blind eye.

In most patients affected with the achromatopsia of hystero-epilepsy, the order of the disappearance of colours is as follows: violet, green, red, orange, yellow,

blue. In some patients, as in the one now commented upon, it is red, and not blue, which persists. When by the action of magnets, solenoids, or metallic plates, the colours are made to reappear, it is in the inverse order to that in which they disappeared. There are cases where the above order does not hold in its entirety; on the other hand, it is never departed from materially; as, for instance, blue is *never* seen if the patient be colour-blind for green.

Leaving the laboratory in which the demonstration of the already narrated facts had taken place, Professor Charcot conducted us successively to the bedside of three patients who afforded the opportunity of studying the varied features of the hystero-epileptic seizure.

VI. *Hystero-Epilepsy; Absolute Hemianæsthesia with Right-sided Ovarian Hyperæsthesia; Induction of the Hystero-Epileptic Seizure by Peripheral Irritation; its Arrest by Compression in the Right Ovarian Region; Inhibition of Fits by continuous Application of Pressure.*—The patient, a young woman of considerable vigour and intelligence, is apparently about twenty-two years of age, and is very frequently subject to the most characteristic hystero-epileptic attacks. These attacks had been exceedingly frequent on the day preceding our visit, but had been inhibited by the systematic application of pressure to the right ovarian region, as will be more particularly mentioned in the sequel. They still continued to recur.

Professor Charcot pointed out that the hystero-epileptic seizure, besides occurring spontaneously, can usually be induced with ease by some modes of peripheral irritation. In the present case, for instance, by suddenly "gripping" the skin of the breast on both sides, about on a level with the fifth rib, and midway between the anterior and posterior boundaries of the axilla, the patient instantly fell into the hystero-epileptic convulsion. The constancy with which the effect followed the cause was demonstrated over and over again to be absolute.

Although the various phenomena of the hystero-epileptic seizure are known to many readers through the writings of M. Charcot, it may be not uninteresting to describe them with all minuteness as they were presented before us by this patient. The attack may be conveniently divided into three or four stages.

The first stage followed the application of the peripheral irritation without the intervention of any perceptible latent period; its features were the following: The head was thrown violently backwards, the limbs and body became rigid, the respirations infrequent and stertorous; in a few seconds, the tonic spasms were succeeded by clonic spasms affecting the muscular system. A slight remission, lasting for a very few seconds, occurred, which was spoken of as a kind of *entr'acte*, and then commenced the second stage. The first may be termed the *epileptiform stage*.

The second stage was characterized by extraordinary movements affecting the whole trunk. The back being somewhat opisthotonically arched, the body was thrown with great violence and astounding rapidity alternately on to the occiput and heels. This stage, which, like the first, is of very brief duration, is denominated the *phase des grands mouvements;* during its continuance occur the first hallucinations, to be afterwards referred to. The violent movements cease almost instantaneously, and then follows

The third stage, or stage of emotional attitudes (*phase des attitudes passionelles*). During this stage, the patient assumes successively the expression of face, the attitudes, and the gestures which portray varied emotions—intense and vivid. The varied emotional states will be distinguished in the order in which they occurred by letters.

a. No sooner had the great movements ceased, than, raising herself into a sitting posture, with clenched fists and menacing expression, the patient presented

the most startling picture of one threatening; but almost instantly the picture changed to

b. The whole expression and attitude portrayed cowering, abject fear. Of no longer duration than *a*, *b* was followed by stage

c. The patient now assumed an expression of absolute beatitude. It is impossible to describe the look of saintly happiness, as of one who realized the blessedness of heaven, which the patient presented. It was the expression which some of the old masters have impressed upon their saints and martyrs.

But now occurred a change no less striking than the preceding.

d. The expression of saintly happiness was succeeded by one of intense joy; the patient sees one whom she loves; she beckons to him to come, to come quickly; he has come. . . . Then succeed gestures which stamp this as the *phase of lubricity* or the stage of the emotional attitudes.

e. Again fear takes possession of the patient; at first it is rats which she sees, and which she appears to fear the attack of, which evoke passionate exclamations of dread and disgust; then it is obviously the fear of some human being which oppresses her, and causes her to beg for mercy.

f. There is no longer fear. The patient hears the strains of music; she is pleased; she herself begins to hum the tune, but only for an instant, for

g. Her singing is followed by weeping, which is broken by reproaches addressed to her parents as the causes of her misery. This last phase (*g*) in the stage of passionate attitudes may be made to constitute a fourth stage, or a stage of recovery, in which hallucinations persist for a time.

Reference has been made in the preceding pages to ovarian hyperæsthesia as a characteristic symptom in cases of hystero-epilepsy, and more may be said on the subject in connection with the present case. The ovarian hyperæsthesia is evidenced, firstly, by a great tenderness in the region of one or both ovaries; it is usually on the side on which analgesia exists that the ovary is hyperæsthetic; secondly, by the hystero-epileptic convulsions frequently commencing by an *aura* which seems to take its origin in the hyperæsthetic ovary; thirdly, by the extraordinary fact that, at any stage, an attack of hystero-epileptic convulsions may with certainty be instantly cut short by firm pressure made with the fingers or fists in the region of the hyperæsthetic ovary. This inhibitory power of pressure upon the ovary is as surprising as is the influence of definite peripheral irritation in inducing the attack. At the instant that pressure is made in the ovarian region, two results always follow: firstly, the patient's mouth opens, and the tongue is spasmodically extruded; and, secondly, the convulsions cease. The patient can then always describe the hallucinations to which she was subject at the particular instant; and it is found that these hallucinations are always constant—*i. e.*, the same attitude corresponds to the same hallucinations. The first, or epileptiform, stage is associated with no hallucinations, as is discovered by cutting the attack short during this stage.

The invariable inhibition of the attacks by temporary pressure on the ovary has suggested the advisability of using continuous pressure to prevent the attacks. On the day preceding our visit, the patient whose case I am now relating having had a very large number of fits, an apparatus just constructed by Dr. Poirier, and which enables pressure to be made steadily on one ovarian region (very much as the abdominal aorta is compressed by Lister's tourniquet), was applied; and as long as the pressure was kept up—*i. e.*, for several hours—no fit occurred. Three minutes after it had been taken off, the fits recurred.

VII. and VIII. were the cases of hystero-epilepsy in which we had the opportunity of studying the features of the attacks. In VII., the epileptic stage was accompanied by a most piercing epileptic shriek. This patient is subject every

night to libidinous hallucinations which have the closest resemblance to those for which innumerable women were burnt as witches during the fifteenth and sixteenth centuries.[1] Patient VIII. was remarkable for the extraordinary attitudes which she assumed during the third stage. Her attitude of "disdain" was typical of that emotion, and excited as much surprise as the expression of beatitude of patient VI.

—

Fungus of Thrush.

Dr. PAUL GRAWITZ, in a contribution to the systematic botany of vegetable parasites (Virchow's *Archiv*, August, 1877), points out that in thrush-patches, besides epithelial cells, various forms of bacteria, torula cells, and myelin of pleospora, oidium lactis, and mucor mucedo, and others, there is always the proper thrush-fungus—mycoderma vini (not the so-called oidium lactis). This specific fungus the author succeeded in isolating, and was able to cultivate in a modification of Pasteur's solution, as well as in plum-pulp. The appearance it assumed under cultivation depended on the amount of sugar present; when there was little sugar, it formed a widely spreading mycelium; when a considerable quantity, it formed dense clusters of torula-like buds. When this fungus was administered in milk to healthy kittens and puppies no result followed, but when it was given to feeble, ill-nourished, and thus predisposed animals from three to eight days old, death followed in from four to ten days, and on examination the characteristic small white patches were found on the gums and fauces. Other fungi failed to produce the same results. Experiments with other fungi, achorion Schönleinii, trichophyton tonsurans, and microsporon furfur, led Dr. Grawitz to believe that they were all identical, and simply the familiar oidium lactis.

With Virchow, the author believes that occasional parasites, especially those found with lung-diseases in cases of diabetes, are of secondary importance.

When spores of fungi (pencillium, euroteum, mucor, oidium, and muscardine) suspended in distilled water were injected into the carotid artery or one of the large veins, no results followed, except when bacteria were injected along with them, the bacteria setting up septic poisoning. The spores injected never germinated; they were either dissolved or eliminated by the kidneys. When introduced into the subcutaneous tissue they were either absorbed, encapsuled, or eliminated by suppuration. When the spores of oidium were introduced into the vitreous chamber, they germinated and formed small nodules composed of convoluted masses of mycelium threads. The vitreous humour seems to have been the only place which supplied all the conditions necessary for their growth. The influence of fungi on the system seems to be altogether of a mechanical nature.—*Lond. Med. Record*, Oct. 15, 1878.

—

Histology of Mucous Patches on the Tonsils.

M. CORNIL (*Le Progrès Médical*, August 10) presented a memoir to the Académie de Médicine on the results of the examination of several mucous patches (*plaques muqueuses*) which he had removed in his practice at the Hôpital de Lourcine; the wounds healed readily.

First variety: opaline mucous patch.—The epithelium is thickened, the papillæ elongated, and the deeper connective tissue thickened by infiltration with new cells. The superficial layer of epithelium presents cells with cavities round their nuclei; frequently also the cavity of the cell is filled with pus instead of the nucleus. Moreover, in this same layer there are little nests filled with globules

[1] See De la Folie . . . Description des Grandes Epidemies de Délire, par L. F. Calmeil. Paris: 1845.

of pus, little abscesses hollowed out amidst the epithelial cells, containing from four to ten, or even up to a hundred globules of pus. These collections of pus give the appearance of opalescence.

Second variety: ulcerated mucous patches.—The epithelial layer is disintegrated by a great quantity of liquid and pus-globules coming from the papillæ. The epithelial layer may be completely destroyed, and the inflamed papillary body form the base of the ulceration. There exists sometimes a true false membrane, gray, adherent, diphtheritic, upon this ulceration. The false membrane contains no parasites, but the branching state of the epithelial cells, the holes or cavities in them filled with pus, present the same aspect as in diphtheria.

In both cases the closed follicles of the tonsils were inflamed, and the whole organs were hypertrophied. The lymphatic sinuses round the follicles and the reticular tissue presented a variable quantity of large cells, with one or more nuclei containing red blood-corpuscles. This follicular lesion is identical with that which the author described in the glands in the first and second stages of syphilis. In short, the syphilitic tonsils in the second stage represent a papule upon a syphilitic gland.—*London Med. Record*, Oct. 15, 1878.

—

Sublingual Ulceration in Pertussis.

Dr. DELTHIL having forwarded a paper to the Académie de Médecine, it was referred to a committee, and at a recent meeting of the Academy (*Bulletin*, No. 28, September 17), Prof. HENRI ROGER, of the Hôpital des Enfants, read an able and conclusive report upon the subject. He founds the remarks he makes upon it upon his prolonged hospital and extensive civil practice, pertussis prevailing epidemically every year in Paris, and severely so in 1877–78, so that the field of observation has been ample enough.

That it is not an essential phenomenon of pertussis, as maintained by some observers, is shown by the fact that it is not always present. In fact, its frequency is very variable, being dependent on the violence of the paroxysms and on the disposition of the teeth in the first dentition. When these two conditions are united it is almost always met with, while when they are both wanting it too is absent. Still, as a general statement, Prof. Roger agrees with Dr. Delthil that sublingual ulceration is met with in about one-half the total number of cases of pertussis. Another proof that it is not an essential phenomenon is that it does not appear at a fixed epoch at the commencement. It is rarely observed before the third week (comprising the period of incubation), and in most cases several days later. If the habitual duration of the two stages of pertussis be considered, we can understand why the ulceration does not appear, save exceptionally, before the third week. Although it is difficult, even in private practice, to learn exactly the date of the infection, Prof. Roger is in possession of a sufficient number of precise facts to enable him to state that the mean duration of incubation is generally six or seven days—although he has in some cases known it to be as short as three or four days, and as long as ten or twelve. Then a period of at least ten or fifteen days passes before the cough, at first common, becomes spasmodic, and then quite paroxysmal—before the attacks are exhibited by expiratory jerks, with impulsion of the tongue against the lower teeth. It is only during this full nervous period that the frænal ulcer is developed. The time of its appearance, so far from being fixed and early, is necessarily slow and variable—always following, and never preceding, the paroxysmal stage.

As to the mechanism of its production, there is no preceding vesicle or pustule present, as represented by some writers. Prior to the ulcer appearing, Prof. Roger has often observed at the frænum, and especially at its lower insertion, a

somewhat vivid redness, and then an erosion, or a linear division of the mucous membrane, with an appearance of granulations. At the point of section of the frænum there is sometimes seen a transverse depression, and sometimes a kind of pimple (*bouton*), or a yellow or white patch, often of a pearly aspect, two or three millimetres in size. At other times there is a small, median, oval ulcer, with irregular edges, and a pale or reddish-gray base. The lesion may remain in this state, while in other cases it may extend some millimetres beyond each side of the frænum, becoming also deeper, as if burrowing under the tongue. The ulcer is generally covered with a whitish or grayish exudation, not diphtheritic in its appearance, but resembling the exudations which cover the irregular ulcerations mechanically produced inside the cheeks and lips by the projection of irregular teeth or their fragments. The origin of the ulcer is purely mechanical; the tongue being in its hyperæmic state thrust forwards during the paroxysms of coughing, the frænum is easily cut by the sharp lower incisors—the lesion prevailing in a precise ratio with the severity of the cough. The ulceration occurs more readily in infants of ten or twelve months than in older children, because in the latter, when the first dentition is completed, the tongue is supported on the entire range of teeth, and is much less liable to injury than when it is only projected against the incisors, which are sometimes divided on their edges into points as sharp as needles, lacerating the tongue, and dividing the frænum like a knife. When the disposition of the teeth is anomalous, the other parts of the tongue may be lacerated; and, on the other hand, when the frænum is short, so as to prevent its protrusion, no ulceration at all will be observed. So, in infants attacked by pertussis before dentition, no ulceration is ever observed; nor is it met with in the pertussis of adults, in whom the edges of the teeth are much less sharp, and who do not project their tongues during the paroxysms.

As to the semeiotic value of the ulceration, it is not without its importance, inasmuch as the cough of pertussis is the only one that is violent enough to propel the tongue against the teeth. Prof. Roger has never met with it in any other affection, and wherever its presence is positively proved, pertussis may be diagnosed. Of course, in the great majority of cases, the paroxysms themselves have sufficiently declared the nature of the disease before the ulceration has made its appearance. But still there are certain cases in which the cough, not having as yet assumed a sufficiently special character, the practitioner may hesitate at deciding whether he has to do with a paroxysmal bronchitis or with the true paroxysms of pertussis. He should then examine the tongue (which is not always an easy matter, and requires both care and patience in very young infants), and if he finds this lesion of the frænum, and at the same time a prominence of the corresponding teeth, he may rest assured as to the nature of the case. Sometimes it is an observant mother who first draws attention to the lesion in question.—*Med. Times and Gazette*, Oct. 5, 1878.

—

Treatment of Obstinate Hiccough by Pilocarpine.

Dr. ORTILLE, of Lille (*Bull. Général de Thérap.*, 1878), gives an account of a case of obstinate hiccough in which, after trying all the usual remedies, he had recourse to electricity. For a few hours the application appeared to prove successful; but the hiccough returned. Remembering what he had read of the action of pilocarpine upon the phrenic nerves and of the vomiting which often follows its use, he injected two-fifths of a grain of pilocarpine under the skin. The effect was almost instantaneous. A quarter of an hour after the injection the patient was covered with sweat, salivation was established, and the hiccough had definitely ceased.—*London Med. Record*, Oct. 15, 1878.

Subcutaneous Injection of Sclerotinic Acid in Hæmoptysis.

Sclerotinic acid, which, as is known, has been obtained by Dragendorff from ergot, is injected subcutaneously in hæmoptysis by Professor von ZIEMSSEN, of Brussels (*Deutsche Med. Wochenschrift*, No. 34, 1878). He uses a solution of one part of the acid in twenty-five of distilled water, and injects a Pravaz's syringeful twice or thrice in twenty-four hours. The effect is said to be more certain than that of ergotin.—*London Med. Record*, Oct. 15, 1878.

—

Case of Congenital Narrowing of the Entire Aortic System, with Consecutive Great Hypertrophy of the Heart.

This case, reported by Dr. KNOEVENAGEL, of Cologne (*Berliner Klin. Wochenschrift*, Sept. 1878), appears of interest, first, because of the in many respects peculiar symptoms presented; also on account of the uncertainty of the diagnosis, and, lastly, with respect to its etiology.

The patient, aged 21, came to the hospital on April 6, after having been under medical treatment outside since March 25. His chief complaints were of dyspnœa and repeated vomiting, with irregular bowels; and he said that for a year previously, after prolonged labour in the vineyard (he was a vine-dresser), he had occasionally suffered from shortness of breath and palpitation. In the harvest-time of 1876 he had an attack of tonsillitis, but it could not be ascertained whether it was diphtheritic. He had not observed difficulty of swallowing, frequent hoarseness, or rheumatic pains in the arms. On April 7 he had a pale bloated countenance, with a very strongly built and well-nourished body. The most striking symptom was the remarkable smallness of the pulse, the right being not at all, and the left scarcely to be felt; its frequency could not be estimated. The percussion-note over the lower part of the sternum was dull; towards the left, there was diminished dulness as far as the anterior axillary line. The apex-beat was not to be felt; diffuse vibration was felt quite to the outside of the nipple, which was rather higher on the left than the right side. The heart's action was remarkably irregular; there was no valvular murmur; systole and diastole were difficult to discriminate; sometimes the sounds appeared rough, especially to the left of the sternum, much like pericardial friction-sound. The number of cardiac contractions appeared to be greater than the number of the pulse—very imperfectly perceptible—in the femoral arteries. The irregularity of the heart's action could be perceived by palpation. The carotid pulse on both sides was vibrating, not to be counted; with it could be heard very frequent, short, deep sounds. In the left lung, posteriorly at the lower part, were moist *râles* with feeble breathing; there was dulness nowhere, and marked mobility of the pulmonary border. The spleen could be felt only imperfectly; its dulness appeared increased, as did also that of the liver. The temperature was subnormal: morning, 36.0 Cent. (96.8 Fahr.); evening 36.5 Cent. (97.7 Fahr.). The patient made subjective complaints, chiefly of shortness of breath in walking and going up-stairs, which had for the last three weeks been more marked.

April 8.—Temperature, morning, 36.3 Cent. (97.5 Fahr.), evening, 36.7 Cent. (98.1 Fahr.). The face was even more bloated; the pulse not perceptible. Auscultation gave 140 heart-beats per minute. He had a quite normal stool. The urine was very scanty, estimated at 350 to 400 cubic centimetres; sp. gr. 1031, it was acid, with a copious deposit of urates; no albumen, no sugar. A large blister was applied to the cardiac area; infusion of digitalis (only weak), with quinine, was ordered; also ethereal tincture of valerian.

9th. There was strong bulging of the epigastrium, between the xiphoid car-

tilage and the navel; the entire part felt very resistant, and gave a very dull note, which was limited below by a convex border. The limits, as defined by percussion, could also be confirmed by palpation. Half an hour after swallowing milk, wine, etc., as a rule, there was copious vomiting. He had three scanty stools. The urine was as on the previous day. The heart-beats were 160; over the femorals only an irregular vibration could be felt. The patient lay on his back by preference. Microscopical examination of the blood showed nothing special, no increase of the white corpuscles.

10*th*. There were marked cyanosis of the lips, severe œdema of the feet and legs, undulating movements of the prominence in the epigastrium, which could be felt by palpation. The cardiac vibrations were always most decided to the outer side of the left nipple. To-day the pulse in the femoral artery could be counted, about 160. He had had less vomiting since less food had been taken at one time. The urine was only a little less scanty. There was some muco-purulent expectoration. The patient was often in the knee-and-elbow position, because he breathed more easily. The pulse was not more easily felt. In the night he was much purged, with frequent passage of wind. The abdomen became softer and flatter; the liver, with a smooth upper surface, could be felt, in the mammillary line 1¼ to 1½ inch, in the parasternal line about 3 inches, under the costal border; in the middle line about 5 inches under the base of the xiphoid process. He had vomiting at morning and noon of the following day. The heart's contractions were 140, intermittent. The temperature morning and evening was 36.8 Cent. (98.4 Fahr.). The patient felt himself easier; on the right posteriorly from the ninth dorsal vertebra downwards, there was moderate dulness, and no mobility of the lower border of the lung.

13*th*. Temperature, morning, 37.5 Cent.; evening, 36.4 Cent. He had six thin pultaceous stools. The quantity of urine commenced to increase, about 800 to 900 cubic centimetres. The heart's contractions were 144 to the minute.

15*th*. There was much more urine, about 2500 cubic centimetres of sp. gr. 1008; whether as the consequence of the recently ordered turpentine fomentations, was doubtful. He also had some copious stools, each very different in colour and in the quantity of bile present. The patient felt easier after these evacuations. Temperature, morning, 36.8; evening, 37.5 Cent. The pulse in the femoral arteries began to be countable, with great attention, at from 180 to 190, and corresponded approximately to the heart's contractions.

16*th*. The quantity of urine was no longer so great, still about 1603 cubic centimetres. Temperature, morning, 36.9 Cent.; evening, 37.5. He had very frequent calls to stool, with tenesmus; the matter passed contained much admixture of mucus. The latter continued also the following day; the next night he vomited once more, not having done so for six days.

18*th*. The temperature was subnormal; morning, 36.2 Cent.; evening, 36.8. The quantity of urine was diminished; the heart's contractions were 144; he lay in the knee-and-elbow position.

19*th*. At last the effect of the digitalis seemed to be produced; the heart-beats were 120, the slowest which had been observed hitherto.

20*th*. The heart-beats were 140, very irregular; there was greater dulness both to right and left; very marked undulation of the whole epigastrium. Temperature, in the morning, 36.0 Cent., the lowest observed. The intestinal irritation had disappeared. Respiration was always 32 to 36. From this time the principal phenomena (enormous frequency of the heart, subnormal temperature, pulselessness, small quantity of urine, dyspnœa) remained unchanged till death.

On April 25th, he again vomited twice. On the 26th he had great tenesmus. The epigastric pulsation varied from day to day in extent and force. Another

examination of the blood showed no increase of leucocytes. The quantity of urine diminished again to 700, 600, 500, and 400 cubic centimetres. Moreover, it contained a large amount of albumen, from which it had previously been quite free. On the knees, from the position in which he remained, red infiltrated places and numerous pustular eruptions formed. To produce diuresis, he was given juniper tea with cream of tartar, and benzoated tincture of opium for the expectoration; the digitalis was stopped some time ago as useless. The very distressing condition of the patient was exaggerated towards the end of April by urgent pains, which radiated from the epigastrium to the region of the manubrium sterni, and extended thence over the chest. Vomiting occurred only occasionally. The temperature was, as always, subnormal; respiration 40 to 44, and before death reaching 52, without becoming stertorous. From May 2d there were rust-coloured masses in the sputa, without physical signs of anything but catarrh, and no decided dulness over the lower part of the thorax. Mustard poultices, blisters, and Dover's powder gave no relief. On May 3d, violent urgent pains began in the loins, which radiated on both sides, and were followed by great dyspnœa, cyanosis, and profuse sweating, inability to swallow, but still complete consciousness. Death occurred in the night between the 6th and 7th of May.

The following symptoms are of chief interest:—

1. The excessive action of the heart, and the friction-murmur.
2. The choice of the knee-elbow position for even the whole night long.
3. The periodical greater and less tumour-like prominence of the præcordia.

As to the first, we must think that the heart must act more slowly under the laborious process of overcoming the increased resistance of a diminished diameter of the aortic system (as the necropsy afterwards showed), just as it characteristically does in stenosis of the aortic orifice. For explanation there remains, as the phenomena of paralysis of the vagus throughout were absent, only irritation of the sympathetic, upon which indirectly the subnormal temperature and the imperceptible pulse must have depended. It is interesting also to observe how much the heart can stand without death occurring, if the valves and muscular substance remain intact. The occasional rough character of the heart's sounds, like pericardial friction, is also noteworthy, as *post-mortem* no appearance of pericarditis was found. Probably there was merely a rubbing of the heart against the parietal pericardium, which Seitz has offered as an explanation of similar cases in his *Lectures on Heart-Strains* (*Zur Lehre von der Ueberaustrengung des Herzens*). On the second point, the knee-and-elbow position, this appears to me as a by no means inexplicable, and therefore rightly noteworthy, symptom. The patient instinctively sought to relieve himself of a load close above or below the diaphragm; of whatever kind, speaking generally, the tumour was, this position of the body must have relieved the lungs and great vessels, and so rendered circulation and respiration more easy. What part the position of the head in consequence of this position of the body may have had upon the arterial flow to the brain, remains undecided. Without doubt, however, the knee-and elbow position was the cause of the localization of the œdema anteriorly between the epigastrium and larynx and the two nipple lines, while the other parts of the trunk and the extremities remained free.

On the third point: the tumour-like swelling of the præcordia, apart from the œdema of the skin in the neighbourhood, seemed to be partly a periodical swelling and contracting of the liver (corresponding with the greater or less cyanosis), partly distension of the stomach, which latter view was confirmed by the flattening that took place after copious vomiting and purging. The vomiting itself appeared to me not to be explained by a nervous origin (vagus?), nor from chronic catarrh—the patient had a relatively good appetite to the end; I believe it de-

pended simply on want of space for the stomach, a view which was supported by the fact that the more frequent ingestion of smaller quantities put a stop to it.

The second and third points concern principally the uncertainty of the diagnosis.

Although the discovery of a much enlarged area of cardiac dulness, and the functional derangement, made the idea of fatty heart at first sight plausible, this view soon receded into the background. The position of the patient, the limited œdema around the sternum (obstruction to superficial and internal mammary veins), the epigastric tumour, and vomiting after filling the stomach, all pointed to something encroaching upon the stomach, either in the anterior mediastinum, or close under the diaphragm in the abdominal cavity, such as a tumour, which at the same time pushed the heart to the left, involved the lumina of the great vessels, and influenced the sympathetic plexus. This might be due to a hydatid tumour on the convexity of the liver, the more so as the tenesmus, the mucus in the stools, and the difference in their colour, directed attention to the liver and intestine. But nothing certain could be made out from the stools, and later on important information was accidentally obtained from his relatives. This pointed with certainty to congenital, probably hereditary affection. Then succeeded the view that the mass was an aneurism, in spite of the absence of physical signs, and the want of any history of pain *before* the appearance of the severer symptoms. A fœtal stenosis of the aorta at the orifice of Botalli's duct must be discarded, as the characteristic sign of enlargement of the peripheral arteries was absent, and it would not explain why the pulses in both radials should be imperceptible.

A third interesting point lay in the etiological relationship. It could not be doubted that the condition was hereditary; the relations said that beside one uncle, who had suffered long from hydrothorax and died after thoracentesis (no necropsy made), there was another uncle (father's brother) who could neither sit nor lie on his back, but could only rest in a bent-forward position, leaning his breast upon something. He died suddenly after eleven days' illness. Nothing further could be ascertained, but it was natural to suppose that the same abnormality of our patient existed in that uncle. The brothers and sisters of the former were healthy. Contrary to all our expectations (a certain diagnosis was not, however, made), the autopsy, which was made with great good will and care by Dr. Barthold, showed narrowing of the whole aortic system and great hypertrophy of the heart. The report of the necropsy given by Dr. Barthold forms the conclusion of this paper, and I have only to add that in the *post-mortem* examination a moderate sized goitre was found hidden by the œdema, below the larynx. Although exophthalmos was absent, yet the coincidence of a goitre with functional anomaly of the heart brings the case nearer to one of Basedow's disease, and it is worth inquiring whether in marked cases of that disease any abnormality in the lumen of the aortic system has often been observed.

Post-mortem Report, by Dr. Barthold.—The body was medium sized, ill developed. The skin of the face was very œdematous, also the anterior surface of the trunk and neck. The œdema was most marked around the clavicles. Over the patellæ were superficial bedsores. The muscles were badly developed and pale. The belly was distended, the intestines protruding when the cavity was opened. In the peritoneal cavity were about 150 grammes of clear yellow fluid; the colour and position of the intestines were normal. The lower margin of the liver reached below the costal border 1½ to 2 inches in the nipple line, 2.4 inches in the parasternal line, and 4½ inches below the base of the xiphoid process. The convex upper surface of the liver was quite free. The position of the diaphragm reached on the right the eighth and on the left the seventh intercostal spaces. In both pleural cavities were about 2½ litres of clear yellow fluid, so that the

lungs were pressed back against their roots. About 200 grammes of clear fluid were found in the pericardium. The heart was greatly enlarged, principally upon the right side, and lay with its apex in the sixth intercostal space, 4 centimetres outside the nipple line. The heart measured in its longest diameter (from the origin of the great vessels to the apex) 7.4 inches, in cross diameter 4.8 inches; of the longest diameter the right ventricle anteriorly measured 5.2 inches, and it formed the whole of the transverse diameter anteriorly. The heart lay completely free upon the spine and the aorta, and was only supported a little laterally by the left lung. The greater part of the left ventricle lay posteriorly, whilst the right ventricle occupied the anterior half. All the cavities of the heart were tensely filled; in the right auricle was much fluid blood, with little clot, the same in the right ventricle; in the left pulmonary veins was a buff-coloured, in the left ventricle much old clot. The heart's cavities on the right side were much dilated; the muscular coat was not thickened. The muscle was pale red; the valvular apparatus was intact on both sides. The cavity of the left ventricle was much dilated, and at a place near the apex in the septum there was an area about 1.2 inches in extent where the wall was thinned and fibroid, and had yielded so as to form a depression; elsewhere the wall was about an inch thick. The trabeculæ were generally flat, especially near the depressed part; and there were clots between and under them, the upper parts of which were brownish-black and regular, the deeper parts dirty gray-brown, and with fibrous eroded surfaces, and were very brittle. On the endocardium covering the papillary muscles there were many stellate yellow-coloured appearances, but the muscular substance itself was everywhere equally pale, and nowhere yellow. Microscopical examination of the heart's muscle was not made. The valvular apparatus was very delicate and unchanged. Nothing abnormal was found in the course of the aorta, but it was itself very narrow, scarcely admitting the finger even at its commencement. It measured at the level of the valves 2.4 inches, at the ductus Botalli 1.6 inch, the same at the origin of the left subclavian, at the origin of the fourth intercostal artery 0.9 inch, and the branches of the aorta also showed the same; for instance, the right and left carotids measured 1.2 inch, their origins 0.72 inch, the femorals at Poupart's ligament 0.56 inch, the radials 0.24 to 0.28 inch. The aorta was, however, very little elastic; its coats and those of all the vessels were very thin. Both lungs were very heavy, with superficial colouring of bluish-gray, in the anterior parts containing air. On section they were smooth; on pressure, much mucous fluid poured out. In the right upper lobe was a radiating thick pleural scar containing a calcareous encysted mass. The mucous membrane of the air-passages was cyanotic; in the trachea particularly there were quite superficial punctiform hemorrhages; in the tonsils were cicatricial thickenings. The thyroid body was enlarged on both sides; on section much blood poured out of the dilated veins; the tissue appeared throughout glandular and lobulated. The spleen was adherent partially to the diaphragm; it was 3.75 inches long, 3 inches broad, and 1.2 inch thick; it felt thick, and contained blood in moderate quantity. Both kidneys were of ordinary size, purplish colour, and very hard consistence; the medullary cones contrasted by their colour with the cortical substance. The suprarenal capsules and genital organs showed no changes. In the stomach were five round worms and much mucus. The liver on its upper surface and on section presented a pronounced nutmeg appearance, the bluish-black centres of the acini contrasting with their grayish-yellow peripheries. The mesenteric glands were only slightly enlarged. In the ileum were several submucous ecchymoses of the size of lentils. The brain showed only œdema of the arachnoid. The examination of the blood gave, as during life, nothing special.—*London Med. Record*, October, 1878.

Surgery.

The Antiseptic Method in Extraction of Cataract.

Dr. A. Gräfe, in the *Archiv für Ophthalmologie*, vol. xxiv., says that since May, 1877, he has used the following method in one hundred and fourteen cases of cataract-extraction After subduing as far as possible any inflammation of the conjunctiva or of the lachrymal sac, a drop of a solution of atropia (one per cent.) was applied to the eye on the day before the operation, and a short time before the operation the eye was carefully washed with a two-per-cent. solution of carbolic acid. At the same time, the external surfaces of the lids and adjacent orbital region were carefully cleansed, and the eye, being kept closed, was covered until the operation with a sponge soaked in the carbolized solution. Before being used, the instruments were dipped in absolute alcohol, and dried on pure linen. During the operation, one sponge moistened with the carbolic acid solution was kept constantly at hand for use; and, after the operation, the eye was wiped with it. Atropia was dropped in; and the sponge was kept applied to the closed eye until all hemorrhage or formation of coagula near the wound or between its edges had ceased. As soon as the sponge was removed, lint charged with a four-per-cent. solution of boracic acid was applied, and over it a piece of fine oiled silk that had been dipped in the same fluid. Cotton-wadding and a fine elastic flannel bandage completed the dressing, which was changed once in twenty-four hours during the first three days. During the first seven or eight days, the carbolized sponge was laid over the closed eye at each change of dressing. The exterior of the eyelids was also cleansed by the sponge. Water was not used for the first seven or eight days; atropia was generally applied from the third day. The total percentage of failures in the cases so treated was 1¼, while it varied from 5 to 6 in the cases operated on before the adoption of the antiseptic plan.—*British Med. Journal*, Sept. 7, 1878.

—

On Successful Removal of a Large Thyroid Tumour by Excision and Ligature.

In a paper read before the Royal Academy of Medicine in Turin (*Giorn. della R. Accad.*, May, 1878) Dr. Perassi related (*àpropos* of a case described by Dr. Bottini) a case which occurred to him in 1864.

The patient was a countryman, aged 46, who had an enormous goitre hanging down from the laryngeal region nearly as far as the umbilicus. The tumour was flattened antero-posteriorly, and was many-lobed; the skin over it was healthy, except at the infero-posterior part, where it was somewhat ulcerated, and presented large veins. The tumour, which had first appeared fifteen years previously, and had gradually grown to its present size, was not painful, but very inconvenient. The diagnosis of a large lipomatous bronchocele having been made, it was removed on August 18, 1864.

An exploratory puncture was first made with a trocar, but without result. A long curvilinear incision was made along the front of the tumour, and a shorter one, also curvilinear, along its posterior aspect. The dissection of the flaps was very tedious and difficult, in consequence both of the induration of the deeper tissues, and of the arterio-venous vessels which were met with, and which, as a matter of precaution, were tied before being divided. Having reached the root of the tumour, Dr. Perassi found that it extended more deeply into the lateral regions of the neck than its appearance indicated, and that its extirpation by the knife would be attended with much danger. He, therefore, applied a series of partial ligatures, in which the whole mass of the tumour was included. Believing that the process of putrefaction of the tumour would be injurious, he cut it off a

few centimetres in front of the ligatures. The edges of the wound were brought together, and a cooling ointment was applied. Healing went on favourably, with moderate suppuration, and the patient left the hospital cured at the end of a month. The portion of tumour removed weighed 5550 grammes (about 12 lbs. 4 ozs.).—*London Med. Record*, Oct. 15, 1878.

—

Injuries of the Kidney.

Prof. H. MAAS of Freiburg, in an elaborate contribution to the *Deutsche Zeitschrift für Chirurgie*, Band x. Heft. 1 and 2, publishes the results of some clinical and experimental investigations on the symptomatology and treatment of subcutaneous wounds of the kidney. The author holds the opinion of the late G. Simon, that the prognosis in cases of injury to the kidney is not so unfavourable as it is supposed to be by the majority of surgical authors. Allusion is made to the view of Simon, that the dangers of hemorrhage and suppuration in cases of injury to the kidney might be diminished through operative procedure; hemorrhage by deligation of the renal pedicle and subsequent extirpation of the wounded organ; suppuration by lumbar incision with or without nephrotomy. This view has certainly influenced to some extent the practice of modern German surgeons. Nussbaum recommends an early incision in cases of traumatic renal or perirenal suppuration. Ebstein, whose views as to treatment agree with those of Simon, holds that in cases of renal injury the prognosis is less serious when the wound of the kidney is complicated by wound of the superficial soft parts; for, when the lesion is strictly subcutaneous and there is no external wound, the exit of blood, serous effusion, and pus, is prevented, and the development of pyæmia or septicæmia is consequently favoured.

In the clinical portion of his article, Dr. Maas gives an analysis of 71 cases of injury to the kidney, taken from published and private sources, and tabulated in the following order: 37 cases in which the patients recovered, or in which death was not due to the renal injury; 21 cases in which death was the result of, but did not occur until some time after, the injury; 13 cases in which death speedily resulted, in most instances through injuries to other organs in association with those of the kidney.

Of the subjects of these cases 64 were males and 4 only females; in the remaining 3, the sex had not been mentioned. Of 53 cases in which there is a record of age, in 27 the patients were between twenty and forty years of age. An advanced period of life seems to have no marked influence on the mortality from subcutaneous renal injury, since the table of recoveries included cases in which the respective patients were 52, 66, and 68 years of age. On the other hand, the period of infancy and childhood must be regarded as a condition of danger; for, of seven patients described as children, and who were probably all under 10 years of age, one only, a little girl aged 4 years, recovered, all the others having succumbed very soon after the injury.

In 53 of the 71 cases the injury of the kidney had been caused through direct violence, acting in all but three of those cases on the front or side of the trunk. In 12 cases the injury had been the result of indirect violence, the patients having fallen from a considerable height or with much violence on to a smooth and level surface, or one free from any prominent object that might have caused directly any laceration or contusion of the kidney. In six cases, no mention is made of the manner in which the injury had been caused.

In the large majority of the cases in which death had occurred soon after the injury, the renal structure with the fibrinous capsule was found torn in various directions, but most frequently in the transverse axis of the organ. In severe injuries of the kidney, more or less of the renal structure is often broken down

to a soft mass of detritus, and the whole of the injured organ suffused with blood. The proper capsule is occasionally distended with effused blood, so as to form a very tense and elastic tumour. The fatty capsule and surrounding connective tissue are saturated with blood, the retroperitoneal effusion of which often reaches as far downwards as the pelvis, and upwards as far as the lower margin of the scapula. Blood is very frequently effused into the renal pelvis, and thence passes along the urethra into the bladder, where it is usually dissolved in the urine, and is seldom found in clots. In three cases only in the tables had there been any demonstration of the presence of coagulated blood in the bladder. The direction of a contused or lacerated wound in the kidney very rarely corresponds with that of the long axis of this organ. The lacerated wounds nearly always pass from side to side, and frequently cut off a portion of the organ which is retained in connection with the main portion by means only of unbroken capsule. In a few very severe and fatal cases from forcible direct violence, the peritoneal covering of the kidney had been torn through, and much blood effused into the abdominal cavity.

Death from injury to the kidney is seldom due to primary hemorrhage. In 6 only out of the 71 tabulated cases had the bleeding been so excessive as to cause early death, and in 3 of these there had been laceration of the peritoneal covering of the injured kidney, and considerable intraperitoneal hemorrhage. Secondary hemorrhage is put down as the cause of death in four instances; in two of these cases orifices imperfectly closed by thrombi were found in large branches of the renal artery, and in one the injured kidney, which was enormously enlarged, was partly made up of a large arterial hematoma lined with clot, opening into which was a large branch of the renal artery. In six instances death had resulted from decomposition, with consequent suppuration, of the blood effused around or within the injured kidney.

In very many of the fatal cases death had been due rather to serious complications than to the injury of the kidney. In 2 cases both kidneys were found lacerated, and in two other instances the injured kidney was a single renal organ, the other having been entirely absent. In 4 cases there had been simultaneous laceration of the spleen, and in two of those fracture of some ribs. In 2 cases both liver and spleen had been crushed, and in several instances there had been fractures of ribs and of the bones of one or more limbs. In single cases of renal injury mention is made in the tables of pyothorax, pulmonary abscess, rupture of bladder, dislocation of the first cervical vertebræ, and laceration of the leg necessitating amputation.

Dr. Maas refers to some cases in his tables which throw light on the nature of the healing process after wounds of the kidney. The first observation, one of much interest, was made by von Recklinghausen, and related to a case of complicated injury which proved fatal on the eighth day. The renal wound was found occupied by a completely discoloured and tough thrombus. That the ultimate stage of healing consists in the formation of a scar of connective tissue, is proved by a case recorded by G. Simon. The patient died from tuberculosis five years after a severe renal injury. A well-marked cicatrix was found, containing small and relatively thin-walled vessels. A case in which the healing process had been perfected before death has also been reported by Timothy Holmes. The patient died eighteen months after the injury, probably from long-standing granular atrophy of the kidneys. The trace of the rupture in the injured kidney could hardly be seen, though the remains of extravasated blood in the organ and under its capsule were still visible. In another case, in which the patient died twenty years after an injury to the kidney, followed by an external abscess, the injured organ was found to have been converted into a small cyst, which contained a mulberry calculus.

The most frequent, though not a constant, symptom of crushing or laceration of the kidney, is shock. By the results of experiments on animals, and by the clinical fact that this condition has not been observed in some cases of serious injury to the kidney, the author has been led to believe that this shock is the result not of the renal injury, but really of general abdominal contusion. The most constant symptom of injury to the kidney is pain in the region of the organ. This is increased very much on pressure in the corresponding lumbar region. It is usually restricted to the injured organ, and to the parts just around it, and rarely assumes the radiating character of the so-called renal colic. This symptom is often very persistent, remaining after all other symptoms have disappeared, and troubling the patient long after apparent convalescence.

In all but 6 of the 71 cases hæmaturia was observed. In some cases there was slight staining of the urine, in others a discharge of several pints of blood. In almost every instance of hæmaturia renalis, the blood was dissolved in the urine, and not passed in clots. In some cases there was temporary retention of urine, which, however, would always be readily relieved by the introduction of a catheter. The hæmaturia persisted for a variable period within a limit of eighteen days. A long duration of the bleeding may be explained by a gradual separation and dissolution in the urine of clots arrested in the renal pelvis and canaliculi, after the arrest of the primary hemorrhage. In some cases, relapsing hæmaturia was observed. This can be accounted for only by secondary hemorrhage from the lacerated vessels. Hæmaturia frequently recurs if the patient be allowed to move about too soon after the injury.

Fever is a frequent symptom, even in cases where there is no renal or perinephritic suppuration. Dr. Maas attributes this to the fact that in severe injuries to the kidney, as in fractures and in other subcutaneous injuries, there is always considerable inflammatory exudation, which, as the patient recovers, becomes absorbed. For this condition, Volkmann has proposed the term of aseptic fever.

Anuria being an indication of functional impairment of both kidneys, is a very serious and almost invariably fatal symptom in cases of renal injury. It was observed in the two cases in which the injured kidney was a single organ.

Although in a large majority of the cases which terminate favourably the healing process is completed by the end of the fourth week, and the patients are then quite well, there are some occasional results of renal injury which, though not incompatible with recovery, constitute really serious inflammatory conditions. These are non-suppurative nephritis, perinephritic suppuration, and renal abscess. Formation of calculus, according to the list of tabulated cases, is not a frequent result of renal injury, having been noted in three instances only.

The prognosis of subcutaneous injury of the kidney is placed in a more favourable light by those collected cases, than by the general statements of most surgical authors. We find that of 71 cases 37, more than half, terminated in recovery. The proportion will appear more favourable if we consider the causes of death in the 34 fatal cases. In one case death is attributed by Dr. Maas to the treatment, which consisted in excessive venesection; in 14 cases the injury to the kidney was complicated by fatal injuries of other organs; in 2 cases the injured kidney was a single organ, and in one case both kidneys were injured. Of 70 cases, therefore, of unilateral injury of the kidney, there were 15 cases only in which the renal injury could be fairly regarded as the cause of death. In 6 of these cases death was due to primary hemorrhage, in 4 to secondary hemorrhage, in one to simultaneous secondary hemorrhage and suppurative decomposition of perirenal effusion of blood, and in 3 cases to the latter condition alone. Three patients died in consequence of renal abscess.

Dr. Maas recommends as the best treatment rest in bed, perfect quietude, and

the application of ice-bags. Whilst the administration of tannin, ergotine, and the like astringents, has very problematic results in cases of dangerous bleeding from the large vessels, there are no indications for the use of these agents for minor hemorrhages. The persistent presence of blood in small quantities in the urine is usually the consequence of the dissolution of coagula formed at the time of the primary bleeding. The administration of drinks charged with carbonic acid is recommended. By such agents the secretion of urine is excited, and the dissolution of coagula favoured.

In discussing the question whether severe hemorrhage from subcutaneous injury of the kidney could be arrested by any operative proceeding for deligation of the open vessel, and extirpation of the wounded organ, Dr. Maas points out in the first place that profuse bleeding from large branches of the renal artery is often spontaneously arrested through the formation of a large clot. There is an important distinction, it is shown, between this subcutaneous hemorrhage and the bleeding from large open wounds, and into an extensive cavity such as the abdomen. In many cases, the kidney is so much broken up that it would be difficult to find the bleeding vessel and to remove the injured organ. It would not be easy to decide as to the indications for this plan of treatment. Shock is an uncertain symptom of severe injury to the kidney, and hemorrhage, even though very profuse, is not always fatal.

The tabulated cases show very decidedly the advisability of making a lumbar incision when the renal injury has resulted in suppuration either around or within the injured kidney. Dr. Maas holds that in every instance in which fever is observed, and a tumour can be made out in the lumbar region, this tumour should be punctured, aspirated, or, if necessary, freely incised. If, after some interval from the date of the injury, pus be found in the urine, the kidney should be exposed, and either a free passage be maintained for the discharge of pus, or the injured organ be extirpated.—*London Med. Record*, Oct. 15, 1878.

—

Operation for Phimosis by means of the Elastic Ligature.

Two communications to the Société de Chirurgie of Paris, by M. HUET, of Rouen, on division of the prepuce by the elastic ligature, are noticed in *Le Progrès Médical* of May 11 and August 10, 1878. M. Huet operates as follows: The prepuce on its dorsal aspect and opposite the base of the glans is pierced by a needle carrying a caoutchouc thread; the portion of the prepuce in front of the puncture is then ligatured, and the operation is finished. At the end of three or four days section is completed. The patients do not suffer, and may, if necessary, continue their ordinary occupation.

The author states that he has seen the operation succeed in eighty cases, including both old men and children. The appearance of the parts after this mode of operating is said to be most elegant, and there is no fear of a scar. On August 7, M. Huet showed at the Société de Chirurgie four young soldiers treated as above, with most satisfactory results.—*London Med. Record*, Oct. 15, 1878.

—

Tubercular Infiltration of Lymphatic Glands between the Bladder and the Rectum.

At a meeting of the Parisian Society of Surgeons, held September 11, M. LANNELONGUE showed a specimen, taken from a young child that had died under his care, with symptoms of tuberculosis of the urinary track. At the onset, the child merely complained of sharp pain when voiding urine. Two explorations of the bladder failed to reveal a calculus. On examining *per rectum*, a soft

fluctuating tumour was detected on a level with the prostate, which could be nothing else than a tubercular abscess surrounding the neck of the bladder. The patient died finally from purulent cystitis and consecutive nephritis. At the necropsy, there was found in the prostatic portion of the urethra a cavity, equal in size to a walnut, and lined by tubercular deposits. The loins were also infiltrated with caseous matter. But the most interesting lesion consisted in the presence of seven stones, each being of the size of a small pea, situated in the tissues which separate the rectum from the base of the bladder. One of these stones corresponded exactly to the opening of the ureter. Microscopical examination showed that these stones were caused by the caseation of true lymphatic glands. M. Lannelongue had made researches with regard to this anatomical point, and in another child, who had no lesion of the genito-urinary organs, he had found six glands, situated between the bladder and the rectum. To M. Lannelongue the presence of these glands explained the formation of certain abscesses in the pelvic rectal space. An excoriation of the mucous membrane of the rectum, or a lesion of the urinary organs, set up an adenitis of these glands terminating in suppuration, which extended to the neighbouring cellular tissues.—M. Duplay confirmed the anatomical facts of M. Lannelongue; he had found these glands situated in front of the anterior wall of the rectum.—M. Lucas-Championnière stated that the facts communicated by M. Lannelongue reconciled those which he had himself noted upon the position of uterine lymphatics and the glands of the broad ligaments.—M. Desprès had watched an abscess in the superior pelvic rectal space of a robust individual. After an attentive observation he was fully persuaded that this abscess was caused by an adenitis. The patient had retention of urine as a first symptom.—*London Med. Record*, Oct. 15, 1878.

Case of Lithotomy, where the Suprapubic Operation was resorted to in consequence of the Size of the Stone.

Mr. R. S. Fowler, reports (*Brit. Med. Journ.*, Sept. 7, 1878), the case of Timothy C., a diminutive puny boy, aged 16, who was admitted as a patient into the Royal United Hospital, on November 9, 1877, suffering from all the symptoms of calculus in the bladder. The first examination, with a long curved sound, did not reveal the stone; but on introducing a short straight sound, the stone was immediately felt. On November 14th, Mr. Fowler commenced by operating by the lateral section, and succeeded in seizing the stone with the forceps immediately, but found the size so great as to render extraction utterly impracticable. Attempts were made to crush the stone, but being unsuccessful, after consultation with Mr. Stockwell, it was decided to proceed to extract above the pubes. Mr. Stockwell held the stone against the anterior wall of the bladder, while Mr. Fowler cut down upon it, making a crucial incision; and, with some little manipulation, it was extracted, and then the bladder was washed out. The patient did well, and on the following day could hardly be restrained to bed. The wound above the pubes rapidly healed, in fact was healed by December 8th. The perineal opening caused some trouble for the next two or three months, but was eventually closed by a plastic operation. The calculus, oxalate of lime, was nearly circular, one inch and a half in diameter, covered with mulberry excrescences, and weighed two ounces. The boy is now in good health, and engaged in heavy work as an errand boy.

The Body-Temperature in Granulating Suppurative Inflammation of Joints.

Dr. KÖNIG (*Deutsche Zeitschrift für Chirurgie*, Band x.) remarks that the prognostic importance of commencing suppuration in fungous arthritis is clear, from the fact that abscesses in joints are almost never absorbed in adults, in children only seldom; and therefore that the prognosis of such suppurations, when left to themselves, is unfavourable. Dr. König has ascertained that the commencement of suppuration is indicated by the course of the temperature of the body. Uncomplicated granulating synovitis is not, as a rule, of itself attended with any abnormal course of temperature. Individuals suffering from such affections are indeed very irritable, and slight causes (such as the application of dressings, removal, etc.) readily produce a rise of temperature; this, however, is only of short duration. Prolonged rises of temperature indicate that suppuration is commencing in the joint which is the seat of fungous disease, where they are not caused by processes going on somewhere else independently of the affection of the joint. There is often only a slight rise of the evening temperature, while the morning remission is considerable; in anæmic patients especially, the morning temperature falls even below the normal. Sometimes the development of abscesses is not accompanied with fever, and frequently the patient is free from fever during the formation of a cold abscess; probably because the firm membrane inclosing the abscess resists the absorption of fever-producing materials.—*British Med. Journal*, Oct. 26, 1878.

—

Case of Radial Paralysis cured by Operation.

At a meeting of the Niederrheinische Gesellschaft für Natur-und Heilkunde in Bonn, Professor VON MOSENGEIL showed a patient on whom he had operated successfully for paralysis of the radial nerve. The patient had suffered from gangrenous phlegmon of the upper arm, in consequence of which a portion of the soft parts covering the bone on the posterior and outer side had sloughed to the extent of a hand-breadth. The cicatricial tissue formed in healing had compressed and paralyzed the nerve. In the operation, the nerve was exposed at the border of the supinator longus, and followed upwards for six or seven inches; and a portion an inch long, firmly imbedded in cicatricial tissue, was set free. Healing took place by the first intention. The paralysis lasted several months, but had disappeared some weeks before the patient was shown.—*British Med. Journal*, Oct. 26, 1878, from *Berliner Klinische Wochenschrift*, Sept. 9.

Midwifery and Gynæcology.

Oxide of Zinc Ointment in Membranous Vaginitis.

Dr. THEOPHILUS PARVIN recommends (*Am. Practitioner*, Aug. 1878), the use of large tampons of patent lint smeared with oxide of zinc ointment in cases of membranous vaginitis.

—

Removal of Uterine Cervical Stenosis by Electrolysis.

In the *Annales de Gynécologie*, May, 1878, Dr. LEBLOND says that the cure of stricture of the urethra in man by electrolysis suggested the idea of treating stenosis of the cervix uteri in the same manner. Dr. Leblond performed this

operation in the case of a lady aged 45, the negative pole being applied to the cervix, and the positive pole to the patient's right thigh. It is advisable in the use of electrolysis to apply the negative pole to the cervix, because the cicatrix which results is not so contractile as that caused by the positive pole. Dr. Leblond thinks that electrolysis may be used with advantage in some cases instead of the bistoury or other means.—*London Med. Record*, Aug. 15, 1878.

—

A Case of Atresia Uteri Gravidi.

In the *St. Petersburger Medicinische Wochenschrift*, Dr. J. VON DIETERICH describes a case of atresia uteri gravidi occurring in the eighth pregnancy from cicatricial closure of the os uteri. The patient, a peasant woman, had had six children under perfectly normal conditions. At the seventh labour a doctor had to be called in to incise the os, which did not dilate, owing to cicatricial changes. In her eighth confinement, Dr. Dieterich was called, and found the os uteri almost completely closed by cicatricial structures. There was only room to pass an elastic catheter. Dr. Dieterich made radiating incisions in the os, and, about 9 P. M., the next morning he found the os no more dilated than he had left it in the evening, when he could pass his finger. He enlarged the incisions and gave ergot. In a few hours after these proceedings a live male child was born. The recovery was rapid, the lying-in normal.—*London Med. Record*, Oct. 15, 1878.

—

Results of Ovariotomy before and after Antiseptics.

Mr. T. KEITH, of Edinburgh, makes the following very interesting communication on this subject to the *British Medical Journal* (Oct. 19, 1878).

Ever since Mr. Lister showed me—more than ten years ago—a large blood-clot organized in the wound of a compound fracture, I have followed his antiseptic treatment through its various stages in my daily surgical work. Time has only convinced me of its value. In those early days of antiseptics—I speak of ten or twelve years ago—it did not seem possible that any method could be devised whereby the antiseptic principle could be properly carried out in the removal of abdominal tumours. Yet, in the hope that a certain amount of carbolic acid introduced into the abdominal cavity might prevent or retard the putrefaction of the red serum that is apt to stagnate in the pelvis after ovariotomy, a two or three per cent. watery solution of carbolic acid was freely used in sponging and cleaning out the cavity; antiseptic ligatures, first of the finest silk and then of catgut, were used, and all instruments were rubbed with carbolic oil. Towels were soaked in the watery solution, and sometimes held against the wound, in the vain hope of keeping the air pure as it rushed in when the peritoneal cavity was opened. Carbolic acid was wasted in every possible way. The floor and walls of the room in which the operation was to be performed were sponged with it, and the air was charged with the vapour driven off by heat. For nearly three years—from 1869 to 1871—this practice was more or less carried on. The results, which for that time had hitherto been good, did not improve, but rather the reverse, and, after two or three mysterious-looking deaths, in cases that should have done well, this carbolic acid treatment was thrown aside. It had brought nothing but disappointment and vexation of spirit.

For the next five years, though I continued to use it as usual in ordinary work, no carbolic acid whatever, nor any antiseptic, was made use of in my ovarian operations. Unable, though believing in it as much as ever, to carry out the antiseptic principle, and thus find protection from external agencies, I thought this operation one in which it would be better to trust to care and cleanliness

alone. Sponges were simply wrung out in hot water, long boiled, and if any carbolic acid were used in the cleaning of them it was washed away before an operation was begun. Beyond a purgative, nothing of the so-called "preparation" of the patient was made. No restrictions were put upon visitors, except that they must not have come directly from a dissecting room, or from visiting a case of erysipelas, and they were requested not to touch the sponges. These I always cleaned and took charge of myself. The friends who assisted me—all busy men in large obstetric and general practice—took no special precautions against infection. Sometimes, on putting the question, it was found that almost every kind of infectious disease had been already visited that morning; once only was there a suspicion that mischief was carried, for one of my friends himself took severe erysipelas a few days after he had assisted me at an operation. The patient recovered after a slow attack of blood-poisoning. The regulations made in some hospitals, that every visitor must sign his name in a book, declaring that he has not for a week visited any case of infectious disease or attended a *post-mortem* examination, before being admitted into the operating room, has always seemed to me to be meant for a sort of *plaisanterie*. For my own part, when a case goes wrong after an operation, I have seldom to look far beyond myself for the cause of failure—something done, something not done. This is a lesson hard to learn: we blame persons, things, accidents, and circumstances, rather than ourselves.

During the operation, the abdominal cavity was more freely exposed than I have ever seen it done by another operator. It was also cleaned more thoroughly, and there was no haste in closing the wound; half an hour's waiting was time well spent. Every oozing point was secured by the finest of ligatures, always Lister's, or by the cautery. Large lumps of cellular tissue were not tied, only the bleeding points. The clamp was gradually displaced by the cautery, and when ligatures were required to the pedicle, very fine soft iron-wire or catgut was used; I never used the very thick silk, which I have often seen left in the abdomen, of a thickness and strength sufficient to hang the patient. Even very fine silk, I had long discarded. That I was fortunate in having done so, the recent results given in Mr. Wells's Surgical Lectures prove. Of 157 cases in which he employed silk ligatures to the pedicle, 60 died, or 38 per cent., whereas of my first fifty cautery operations performed under similar circumstances, where from the thickness or shortness of the pedicle, or both, the extra-peritoneal method could not be used safely, there were only four deaths, or 8 per cent. Then drainage, by a large perforated glass tube passing to the bottom of the pelvis, became the rule in severe operations. Finding that the red serum, that enemy of the ovariotomist, would not lie safely in the abdomen by the addition of a little carbolic acid till absorption had taken place, it was got rid of every three or four hours by a tube and syringe as it collected in the pelvis. Doubtless this was a troublesome process, but it lessened or entirely prevented the absorption fever, and that it saved lives I am sure. Judging from the large quantities—pints sometimes, once 146 ounces—of broken down blood-clot and serum got away during the first few days after severe operations in feeble women, no one will convince me that drainage thus practised in those days was of no use, whatever it may now be in operations performed under antiseptics.

Since 1876, every operation has been performed with all Mr. Lister's care, under the carbolic acid cloud, and I shall never go back to the old way. But before giving my impressions of ovariotomy thus performed, I wish to tell you exactly the results that can be got after this operation, by simple carefulness, without antiseptics. There is no mystery in ovariotomy. It is not a difficult operation. Is there any surgical proceeding that is? It is often an extremely

simple one, yet it requires care; in bad cases it takes time, and may present a fertile field for bad surgery; yet any one, who is not in a hurry and takes the trouble, will get as good results. It is now more than sixteen years since I did my first ovariotomy. Beginning with seventeen deaths in the first hundred operations, the mortality year by year diminished, till at last, of the twenty-six operations before the use of the spray, there was but one death, the tumour removed in that case being a malignant one. Now, as the results of a single year may be accidental, I take the whole number performed during the five years immediately preceding the use of the spray. Including two cases of return of the disease in the other ovary, there were in all ninety-four operations, eight being double. Twenty-four of these were performed in the patients' own homes, or in lodgings, or in the country; seventy, in a small top flat, where the hospital patients were taken for nearly ten years. Though I had for a time, some years ago, the sanction of the managers to do ovariotomy in the Royal Infirmary, the only room then available for me in the old crowded building was a small old fever ward at the top of the house, next the scarlet fever and smallpox wards. I soon found it better for the good of the patients, no less than for the credit of surgery, to have all the hospital cases placed near my own house, where they could get quiet, cleanliness, and perfect nursing; and after being threatened by an interdict from the Court of Session, I was allowed to pursue my surgical experiment in peace. Of the ninety-four patients operated on during these five years, nine died, four of the private cases (two being malignant tumours), and five of the seventy hospital ones (one malignant). No result approaching this—one in fourteen of hospital cases—had hitherto been anywhere obtained in any hospital or in any private practice, over a series of years or in any single year. I wish, for the credit of my small hospital, which I carried on almost entirely at my own expense, to make this statement of results distinctly; and I would not make it prominent now, but that year after year the authorities of the Samaritan Hospital proclaim in their reports, in the largest of Roman letters—though one of the surgeons tells me that he has objected to the statement in vain—that the results got there are always the best that have yet been obtained, the mortality of the Samaritan Hospital down to the end of 1876 being nearly one death in every four operated on; of the last five corresponding years, one in five.

Of the nine fatal cases that occurred during the five years preceding the use of the spray, in three the tumours were cancerous. One death arose from obstructed intestine, and another from old kidney disease. These five were probably hopeless under any conditions. Three of the others might have recovered with earlier operation or with drainage; only one was a simple operation with moderate adhesion. It was a large tumour complicated by a uterine fibroid. I unfortunately removed a pedicellated outgrowth which seemed to be in the way. I have little doubt that antiseptic treatment would have covered the errors committed during that operation.

I had not performed ovariotomy half a dozen times, when I felt sure that it would become, perhaps, the safest of all surgical operations; for in the rapidly absorbing powers of the peritoneum—though in these lie at once both the danger and the safety of the patient—the surgeon has an advantage, if he make right use of it, that he has in no other. At the end of 1876, this safety-point seemed almost within reach. The mortality was steadily decreasing, that of the last hundred operations being under ten per cent., while of the cautery cases it was little more than seven per cent. The results obtained were almost free from avoidable mortality. There was no death for nearly seven years after an operation for a non-adherent simple tumour; in a large proportion of the fatal cases the tumours were of a cancerous nature, some with secondary affections of the

peritoneum—a class of cases which, thanks to the investigations of Dr. Foulis, to be afterwards referred to, can in future be always recognized, and in certain of them operation avoided as useless.

Then, in the other fatal cases, with one exception, the operations were extremely severe. It was in such cases of large adherent tumours in feeble women who had come late in the disease that some assistance was wanted. I seemed to have got to the end of my resources. Drainage, and all the care I could give, did not sometimes prevent the blood-poison; for even the feeblest of those operated on rarely die from shock or exhaustion, but from rapid septicæmia. This help I hoped to find in antiseptics now properly applied. Yet, after my former experience of the carbolic acid treatment, I hesitated long ere I used the spray. Its effect in prolonged operations were as yet unknown, the instruments were not very perfect, and the results one heard of, of operations done under it, were not very encouraging. Several cases operated on by friends here with all possible care proved fatal from blood-poisoning. So did one or two done in Glasgow. In London the only case I knew of was done at the Samaritan Hospital by Mr. Thornton, who sent me the notes of it. It was a clear case of death from septicæmia, with some brain symptoms towards the end. The method was blamed for this result, and in consequence the spray was thrown aside, and was not again used there for many months, when its employment in ovariotomy had elsewhere become comparatively common. By this time the German surgeons had settled the question of safety, though their results were still not much to boast of. Mr. Wells, in his sixth lecture (July, 1878), tells us that he had just then received a letter from Dr. Oldshausen, of Halle, giving the results of his own practice and those of Esmarch, Hegar, and Schrœder, with and without antiseptics. Without, there were 65 cases and 33 deaths—1 death in every 2 operated on; results so dreadful that they seem simply incomprehensible. Of 155 cases done antiseptically, there were only 33 deaths, or nearly 1 in 5—a mortality still more than double that of my cases for more than five years without antiseptics of any kind.

Without antiseptics, my results over fourteen years give a mortality of almost 1 in 7. Of the five years preceding the use of the spray, nearly 1 in 10½—of the last of these five years 1 in 21. To what, then, are these results to be attributed? Why should my results without antiseptics be nearly six times better than those of these German surgeons (33 deaths of their last 65 cases—6 of the last 70 of mine), and so much better than those of Mr. Wells, or those of the Samaritan Hospital, in an operation that requires no special surgical skill. Leaving out of view some huge counteracting influence in the German operations, I think they are due—1. To drainage of the abdominal cavity in severe cases by a large perforated glass tube going to the bottom of the pelvis. It is to Kœberlé that I am indebted for the idea. He kindly gave me two of his small tubes in 1866. These were soon found to be too narrow and too short. They got easily choked with clot or lymph. For the last ten years I have used the large glass tubes now in common use. Till I had learned in what cases to drain, the tube was used in alternate cases of the severe operations. I am as certain as I am of my existence, that had I used them earlier and oftener the mortality would have been less by one-third. These tubes I supplied to ovariotomist friends in all parts of the world, though no one used them, so far as I know, till attention was called to drainage by the vagina by Dr. Marion Sims—a method which seems to me to be one calculated rather to give rise to blood-poisoning than to save the patient from it. It is remarkable that the only year in which the mortality of the Samaritan Hospital fell to 14 per cent. was in 1876, when drainage by these glass-tubes was first generally used. 2. To the use of the cautery in dividing the pedicle, as proposed and practised by the late Mr. Baker Brown. How the lesson given by

his last results has been so systematically ignored in London has always been a marvel to me. 3. To the employment of Kœberlé's compression forceps, in large numbers, whereby loss of blood is prevented. His model is still the best, notwithstanding the clumsy imitations of it lately invented. 4. To the substitution of ether for chloroform in my last 230 operations, whereby the after-vomiting is avoided, and the risk of hemorrhage when the wound is closed diminished. All these things have, I think, helped to lessen the mortality, but the drainage and the employment of the cautery in the division of the pedicle have contributed most.

So much for ovariotomy and its results before antiseptics. I have now done forty-nine operations as carefully as possible under the spray. Two of the first eight died, the rest, forty-one in number, all recovered. At first the results were disappointing, for I expected too much. After two or three ordinary cases that would have got well in any way, five patients presented themselves at the same time, whom I would gladly not have seen till I had more experience of the spray in ovariotomy, though just the kind of cases in which assistance was hoped from antiseptics. 1. A young woman who had been nine months in bed from a large, burst, dermoid cyst. She had had double phlegmasia dolens, the œdema extending over the trunk into the axillæ. For months she lay poisoned, often apparently dying, with great pain and vomiting, yet she, after nine tappings, rallied, and was able to be brought into town. She was against operation, feeling sure that she would not recover. I urged her to have it done, telling her of all I hoped from this new method. Instead of closing the wound as I ought to have done, I went on and completed the operation after three hours and a half. Both ovaries were universally adherent, and a mass of bone, hair, and fat, that had become encysted in the upper part of the abdomen, was dissected out. Time was lost in replenishing the spray-producer, and when she was put to bed the temperature of the body had fallen to 92°. Eight hours after the operation it had risen only to 95°. No urine was secreted, and she died comatose thirty-two hours after. 2. Case of large semisolid tumour of 95 lbs. She was anæmic, and had often been tapped. She, too, was unwilling for operation, feeling that her strength was all gone. The same arguments as before were used, and she was encouraged to run the risk. The operation was as bad as could well be—adhesions everywhere—especially to liver, lumbar, and iliac regions. It was the old story—pain, vomiting, and death from septic peritonitis. 3. An old lady of 64, who declined assistance till she was in a typhoid state from suppurating cyst. There were sloughs on the sacrum. The cyst had 60 lbs. of pus, and there were extensive adhesions in the pelvis. The case was a most unfavourable one; yet, with much stimulation, she ultimately recovered, though she had a rapid pulse and high temperature for long after. 4. Case of old, burst, jelly cyst in a lady from Newcastle. There was very old thickening of the peritoneum, and the abdomen was full of jelly. Both ovaries were diseased. She did well for four days. Then came pain and fever. Two pints of horribly putrid red serum were removed by puncture behind the uterus. This had to be done again and again, and for six weeks there was a hard fight against the blood-poison. It was a continued effort to keep the pelvis free of putrid fluid. I believe that the whole abdominal cavity suppurated in this case. The difficulty of establishing a permanent drain was great. There were severe hemorrhages after the incisions in the vagina, followed by severe rigours, and once Douglas's space was filled with blood-clot. She bore nourishment well, and drank brandy like water, and recovered perfectly. In this case, I think infection must have been conveyed by the cut Fallopian tubes close to the uterus, for, on the third day, there was some metrostaxis. 5. A case of bad pelvic adhesion. Here, also, fluid had to be

evacuated from the abdomen, and discharge went on for many weeks. Thus, at first, through want of drainage, things seemed rather to get worse under the antiseptic treatment, reminding me not a little of my experience with the carbolic acid treatment some years ago.

At first, I tested the spray very severely. The operations were more hurriedly performed—that is, I spent shorter time over them, and did not sponge so carefully; neither was I so careful in securing every bleeding point, nor did I wait for the after-oozing in severe cases. I gave up also the drainage-tube, but soon found that the patients did not get on so well, and there was sometimes troublesome absorption fever. One case quite convinced me that the old carefulness could not, even with the spray, be dispensed with. I had operated on a patient of my friend Dr. Sidey, my *fidus Achates* in many a hard operation. It was a very bad case of acute suppurating cyst, with typhoid symptoms. I shut up quickly. There was some oozing going on from extensive parietal adhesions, and some purulent-looking ovarian fluid had escaped into the pelvis, and even this was imperfectly sponged up. He asked me to sponge this a little more. My reply was, that if the spray was worth anything, it would keep all sweet and the peritoneum would take care of it—purulent fluid or no purulent fluid. The patient got on badly, the typhoid symptoms became more marked, and she required much stimulation. On speaking to him one day about the high pulse and temperature, his reply expressed my thoughts of the last few days: "It is all your own fault. You should have sponged that belly better, and not left her to absorb the dirt you left behind. I wish when you try experiments again that you would not begin on my patients, but clean them up in the old way." Fortunately, in this case, the peritoneum was able to dispose of what had unnecessarily been thrown upon it to do.

[The results of the 48 spray cases are given in a table, from which we learn that the spray was used for from twenty minutes to three hours and thirty minutes. Adhesions existed in 70 per cent.; 46 recovered, and 2 died.]

It is only fair to add that this series of operations has, on the whole, been less severe, though there were many bad operations amongst them, and there is a larger proportion of non-adherent tumours. Neither were the tumours so large. Thus, in 50 cautery cases (*Lancet*, April, 1876), 18 per cent. of the tumors were non-adherent. In the table the number of non-adherent tumours is 30 per cent. But I find that in Mr. Wells's last published 50 cases, 42 per cent. of the tumours were non-adherent. Instead of, as in former years, advising against operations in cases of moderate sized tumours, which had not yet become a source of danger, all were operated on just as they came. Hence the number of simpler operations.

The spray is neither troublesome nor inconvenient. The instrument at present in use is Gardiner's largest size. It has a double jet; and, when placed at a distance of eight or nine feet, the spray reaches the wound without any cooling current, and as fine as a London fog. That the spray is essential in ovariotomy to the perfect carrying out of Mr. Lister's principle is proved by my experience over so many years of the simple carbolic acid treatment. There can be no two opinions about this.

With antiseptics, some form of intra-peritoneal treatment of the pedicle will be found to answer best. The clamp has done good service, but it must give place to something better. The mortality attending its use is larger, and the convalescence slower, as a rule, than with the best of the intra-peritoneal methods.

The ligatures, when employed, were either catgut or fine soft iron wire. I have already stated that, of fifty-one cautery cases before antiseptics, there were four deaths; of thirty-one cautery cases with spray, all recovered. A method,

then, which in the worst cases without antiseptics answered so well, must be a good one with them. What difference was there, then, in the cases that got well? Not much. Carefully prepared tables of temperatures of the two sets of cases show very little difference. There was, as a rule, the same moderate rise of temperature up to eight or ten hours after operation—more marked, perhaps, in both sets of cases in young subjects, especially if in too good condition; then a fall by next morning, and again a rise in the evening to about thirty-four hours after operation. After that, almost a normal pulse and temperature, and a rapid convalescence, except in some of the cases where ligatures were left in the pedicles. In both sets of cases the wounds were dressed in the way I have now done for many years. Eight or ten folds of gauze soaked in an 8 per cent. solution of carbolic acid in glycerine, and over that a large cushion of cotton wool. When there was no draining, this dressing was not disturbed for a week or more, and primary union was always got with or without spray. The patient was generally out of bed by the end of the second week, and home, after a long way, during the third. Yet, the convalescence was easier in the antiseptic cases. They suffered less from flatus, and slept better. The nurses all tell me that they had less trouble with them, and had themselves much more sleep.

Yet, in three cases, the temperatures were the highest I have ever seen a few hours after ovariotomy. In one it rose to 104°, but was down by next morning. In another, five hours after operation, it was 106.2°; in another, 105.5° eight hours after. These two were cases of burst cysts. In both, the adhesions were unusually great to intestine, mesentery, and in the pelvis. Both were long operations, and there was great exposure of intestine and mesentery to the action of the spray. Now, I have rarely—not more than twice, I think—seen a temperature of 103° on the evening of the operation in any case, before antiseptics; and I cannot account for the rapid rise in these two cases. In the case where the temperature rose to above 106° so soon after, a most unfavourable prognosis had been given, the chances being put as a hundred to one against a favourable termination. She was sixty-three years of age; was in a typhoid state after a burst cyst, and was quite comatose. This condition continued more or less for a fortnight, and she has now no remembrance of the operation, or even of having seen me. I have rarely met with high temperatures in ordinary ovariotomy, and nothing has so much surprised me as to read of the hyperpyrexia which Mr. Wells tells us is the rule after ovariotomy. I had never before antiseptics found it necessary to use ice to the head to bring down fever in the first days after operation. The ice cap was only used once in a case of acute septicæmia, and the temperature remained unaffected. Indeed, in all my cases before the spray, not more than five or six pounds of ice were got for the whole number, and the most of that was wasted. I attribute the hyperpyrexia to operating in women overfed, or in too full health with small tumours, or to imperfect cleaning, or not draining of the abdomen, thus giving rise to absorption fever. Many years ago, when I sometimes removed moderate-sized semisolid tumours from women in full condition, my practice was to let them lose ten or twelve ounces of blood from the pedicle before securing it. This prevented any undue blood-pressure and vascular disturbance. For long my practice has been to wait till the patient had suffered from her burden, and interference was necessary. Only once or twice has this rule been broken through, when some German or foreign friend wished to see the cautery used, and only some case of small tumour was at hand to show him. But then I generally had to regret it. Antiseptics will change all this.

What, then, have we gained by antiseptics in ovariotomy? 1. It has lessened the mortality. Take the results of the German surgeons. After the first trials even, the mortality fell at once from 50 per cent. to 20; thirty lives saved by the

spray alone out of every hundred. When I add that my last forty-one have all recovered, enough has been said. No such successful series was ever got in the old way. Once Mr. Wells had twenty-seven successful operations in succession. But look at that wonderful list of eight hundred operations. How often did it happen that there was a run of deaths, too many and occurring too often to be merely accidental; frequently four or five in succession, once seven, then ten out of twelve, etc. With antiseptics there will be no *per contra*, and such a run of deaths will come no more. 2. This increased safety will encourage medical men to recommend earlier operation, which certainly few of them now do. That very large tumours and bad adhesion increase the mortality there can be no doubt. For the last seven years, no death happened to me in non-adherent tumours, and the deaths that occurred during that period were, with a single exception, in cases when the local difficulties prolonged the operation for two hours or more. Certainly early operation, when a cyst bursts and fluid is thrown out in a large quantity into the peritoneum, cannot be too strongly urged. 3. With antiseptic ovariotomy the drainage-tube will not be nearly so often required. I do not think that it can be altogether dispensed with. No one has practised drainage so much as I have, yet I know well that it sometimes cannot be used without risk. Some patients give simply serum from the irritation of the tube; in others, after a short time the tube becomes inclosed in thick lymph, and it sometimes gets choked with this. In such circumstances, there must be a risk of some folds of intestine adhering at angles when the tube is removed. I have several times seen decided inconveniences arise from this, but never any fatal obstruction. With antiseptics the tube can be removed much earlier. Drainage is certainly a great trouble both to the patient and attendant. 4. Convalescence is rendered easier. 5. Antiseptics are a great comfort and relief to the operator. Speaking for myself, the difference is enormous; ovariotomy is not the operation it was fifteen or sixteen years ago, or even two years ago. The best results in the old way were difficult to get, and no one knows but who has experienced it the anxiety and weariness of spirit with which the struggle against the blood-poison was carried on in the early days of ovariotomy. It is something to think that no one will again have to suffer these experiences in the same degree, and it almost makes one envy the younger ovariotomists to whom the way in these days is made easy. Now there is a feeling of confidence and security; the constant fret and worry to get chemical cleanliness in one's hands, in the surroundings of the patient and her attendants, has passed away. The time is saved that was spent in cleaning the sponges, in passing the points of instruments through the flame of the spirit-lamp, and in other endless precautions. Above all, there is the feeling that the patient is protected from external agencies. Now, with an 1-in-20 carbolic solution and a nail-brush, with first perhaps a wash in turpentine to remove all fatty matter, I am safe to have my hands in any degree of putridity half an hour before an operation. Professor Schroeder tells us that he uses extraordinary precautions; that, on an operation-morning, he gets up early and washes himself all over; that his assistants wash themselves, and that the patient is all washed; that neither he nor his assistants see any patients till the operation is over. Surely all these washings are unnecessary, and have come too late. Had these precautions been taken before the days of antiseptics, I can imagine that the results of the German surgery in ovariotomy would have been something better than a 50 per cent. mortality. I have recently successfully performed ovariotomy several times on poor women in their own homes, or in almost filthy lodgings, without any precaution whatever.

That drawbacks may yet appear is quite possible. What I should be afraid of is the effect of very long-continued spray in severe cases in feeble women. I

think I have noticed a greater depression immediately following some of the very long operations, and a necessity for greater stimulation during the first twelve or twenty hours. I confess I shall watch with some anxiety whether deaths in severe cases happen more quickly than they used to do.

One's pleasure in this operation is, however, greatly marred by the frequency with which malignant disease is found at the operation, or reappears soon after it, upsetting all one's calculations. In one-fourth of my deaths, the tumours were malignant; and, with very few exceptions, in those who have died since their return home after ovariotomy, some cancerous affection has been the cause of death. Thus, amongst these, five young and healthy-looking women have left me, all after severe operations, the pictures of health and happiness, and have died within a short time of peritoneal cancer. This is a subject of the greatest interest. Till quite recently, our knowledge of the microscopic appearances of the diseased ovary was in a state of hopeless muddle. Dr. Foulis, by his investigations of the anatomy of the ovary, has at length made its pathology simple. Healthy and malignant ovarian structure, simple ovarian and peritoneal fluids, as well as those of the uterine fibro-cysts, can now be recognized with certainty by the microscope alone. We know now that, in certain cases where free fluid in the peritoneum is present with ovarian tumour, there is no use in operating; in others, that we cannot interfere a day too soon; and in some we can predict a return of abdominal disease after successful operation. These researches of Dr. Foulis are of the utmost value, and I know well the time and labour that have been for several years spent upon them. I regret to have to add that, in his recent lectures at the College of Surgeons, Mr. Wells incorrectly gave the entire credit of these investigations to Mr. Thornton, who, to say the least of it, as ungenerously tried to claim it.

Not long after I began ovariotomy, one of the heads of the profession here—the best and most honest of men, an old teacher, and one whom I looked up to as a professional father—said to me: "Fellows like you should simply be handed over to Mr. Lothian." Now, Mr. Lothian was the public prosecutor. By simple care, and by giving heed to the old surgical principles that my good master James Syme taught, I am now able to show you that the mortality of ovariotomy has with me got less and less every year since I began it, till in the year before antiseptics it had fallen to 5 per cent. Surely, then, if one's natural conservatism should have hindered any one from adopting altogether a different procedure, such as the antiseptic principle involves, it should have prevented me. But there was no getting over the living blood-clot in the open wound of the broken leg. There was certainly disappointment at first, but only from my inability to carry out the principle, or from trying to carry it out in a wrong way. Now, the right way is got, and surgeons like Mr. Callender, or our own Mr. Spence, may take my word for it that, if they have reached already near perfection in their work, they will, by carrying out Lister's antiseptic principles, get still nearer it, and that, too, with greater comfort to their patients and with less anxiety and less trouble to themselves.

In his last edition on the *Diseases of Women*, Dr. West thus writes: "I think, then, that we are now bound to admit ovariotomy as one of the legitimate operations in surgery; as holding out a prospect, and a daily brightening prospect, of escape from a painful and inevitable death, which at last, indeed, becomes welcome, only because the road that leads to it conducts the patient through such utter misery."

This long-despised operation is now the safest of all the great surgical operations, at least judging from these results: twelve deaths of the last one hundred

and fifty-six, three of the last seventy-five, and no death of the last forty-one operations.

I would fain expatiate for a little on antiseptics in general, but must bring this rambling paper to a close, feeling sure that, whatever may appear in the future of antiseptics in surgery, the name of Joseph Lister, who put us on the right way, will not be forgotten.

—

A Case of Tubercular Pelvic Peritonitis with Tubercle of the Ovaries and Suppurative Encysted Metritis, in a Girl aged Six Years.

In the *Annales de Gynécologie*, June, 1878, Dr. CH. TALAMON relates the following rare case: Marie T., aged 6, was admitted under Dr. Triboulet, to the Sainte-Eugénie Hospital, with symptoms of tubercular meningitis. There was found, also, consolidation of the lungs at both apices. No symptoms drew attention to the abdomen, which was flat, excavated, and flaccid, as usual in tubercular peritonitis. The meningitis ran its course, and at the end of six days the child was seized with convulsions, and died. At the necropsy the usual appearances were found in the brain, and tubercular consolidation of both apices of the lungs. In the intestine, all the Peyer's patches were the seat of irregular ulcerations. The uterus was three times its normal size, and contained a clear green viscid fluid, like muco-pus; its cervical orifice was closed by tubercular ulceration. The Fallopian tubes were obliterated. The two ovaries were surrounded by thick caseous exudation. On removing these exudations, the ovaries appeared indurated, irregular, and enlarged to the size of the ovaries of a young adult. On section, they were found to be entirely changed into yellow cheesy matter. The microscopic examination revealed miliary nodules on the external surface of the ovaries. The portions of the tubes adjacent to the ovaries presented tubercular degeneration of the mucous membrane, whilst the uterine ends of the tubes remained normal.—*London Med. Record*, Oct. 15, 1878.

Medical Jurisprudence and Toxicology.

Saponin Poisoning.

A curious instance of acute poisoning in the cause of science is reported by the victim, Dr. F. KEPPLER in the *Berliner Klin. Wochenschrift*, Nos. 32, 33, 34. He wished to test the value of saponin as a local anæsthetic, and injected a solution containing 0.1 gramme into the inner side of the left thigh. Saponin, it may not be superfluous to premise, is a glucoside extracted from *Saponaria officinalis*, and it is identical with senegin, the principle of *Polygala Senega*, so much used in chronic bronchitis.

Experiments on animals have been made with saponin by Eugene Peliken, Herman Köhler, Schroff, and others, who found that this body in sufficient doses paralyzes the heart and the vaso-motor and respiratory centres, and in smaller doses probably acts as a local anæsthetic. Hypodermic injections of saponin were tried in three cases by Eulenburg, with doses ranging from 0.06 to 0.02 grammes; but the ill-effects which followed were so severe as to lead him to warn others not to use saponin for anæsthetic purposes in human beings, especially as the neuralgia for which in each case the injection was made continued unrelieved.

The preparation used by Keppler on himself was obtained from Merck of Darm-

stadt. It was an amorphous clear brown powder with a feeble acid reaction. With water it formed a cloudy liquid which frothed a good deal, and even at a little distance caused severe sneezing and a sensation of burning in the eyes and throat. At the commencement of the experiment Dr. Keppler's pulse was normal, 85 per minute, and his temperature *in the hand* 36.2° C. The effects of the injection may be divided into (1) those merely due to the local irritation of the injection and the inflammation excited in the tissues, and (2) those entirely the result of the saponin-poisoning. The first consisted of the most painful local inflammation of the skin, reaching its height in twenty-four hours and then subsiding, and general symptoms of depression; pallor, cold perspiration, giddiness, and actual fainting. These symptoms also occur after injections of other substances (*e. g.*, corrosive sublimate). The true saponin symptoms were, locally, a peculiar anæsthesia of fifteen minutes' duration, which prevented the prick of a sharp needle being felt, while it did not remove the continuous pain of the injection itself; and generally, alterations of the temperature, pulse, intelligence, etc. The temperature was not exceedingly raised. The hightest point reached was 38.6° Cent. three hours after the injection; but on the third day there was still fever in the evening—37.8° Cent. On the fifth day there were abnormally low temperatures, reaching 33.6° Cent. at 3 p. m. As the pain and inflammation at the seat of injection were so severe, Dr. Keppler believes that the saponin acted as an antipyretic, and that it was not until the fifth day, when the local symptoms had nearly subsided, that its depressing effects were really able to show themselves. This view seems further justified by the state of the pulse on the fifth day, when it fell to 65 per minute, the normal being 85, and the average pulse on the first four days of the experiment having ranged from 80 to 100. The other general symptoms on the *first* day of the experiment were intense pain in the head and eyes, and especially in the left eye, intermittent rigors, and extraordinary depression of mind, with indifference to everything that was going on around, and terminating in a state of unconsciousness of several hours' duration. On the *second* day the pain in the head was still worse than before, there was exophthalmos of the left eye, the breathing was superficial and slow, and speech difficult. Standing was almost impossible. The pulse was scarcely perceptible, but there was subjective palpitation. Pains in the teeth were also perceived, though not one of them was carious. The appetite was quite lost, but there was no thirst. On the *third* day there were still slight rigors. There was less pain, but nausea, salivation, and intense weakness were present. The indifference even to matters which a few days before were of the highest interest, was remarkable. On the succeeding days the pains in the head and eyes as well as the weakness gradually disappeared, but even on the sixth day giddiness came on on getting up, and continued all day, and Dr. Keppler felt as if he was recovering from a severe illness. Considerable inflammatory thickening was present under the injected area of skin a year after the date of the experiment.

It thus appears that the subcutaneous injection of saponin for anæsthetic purposes is a complete failure, and that the use of the drug is by no means unattended with danger; but Dr. Keppler thinks there is a possible future for it as an antipyretic and excitant in cases of acute pleurisy and pneumonia with so-called "cerebral symptoms," and in malignant typhoid forms of endo- and peri-carditis. Possibly also the severe local inflammation excited by the injection may be applied to the destruction of certain morbid growths, lupus, sarcomata, etc., which may not be suited for operation. The maximum dose which should be tried at the first injection should not exceed 0.06 gramme, or one grain.—*Med. Times and Gaz.*, Sept. 28, 1878.

CONTENTS.

Anatomy and Physiology.

On the Costal Processes of the Lumbar Vertebræ. By Prof. Hermann Meyer . 529
Sinus Transversus of the Occipital Bone. By Prof. Hermann Meyer 529
On a Peculiar Reaction of Saliva. By L. Solera 530

Materia Medica and Therapeutics.

Effects of Strychnia. By Dr. W. H. Klapp 531
On the Use of Chloral-Hydrate Enemata. By Dr. Starcke 531
Metalloscopy and Metallotherapy. By Prof. Eulenburg 532

Medicine.

Migration of White Blood-Corpuscles in Inflammation. By Appert 533
Addison's Disease. By Dr. John Wylie . 533
Mixed Forms of Typhus. By M. Borodulin 534
Testis in Typhus. By M. Fenomenow . 536
Case of Cerebral Rheumatism with Catalepsy. By Dr. Mancini 537
Ignored Syphilis. By Dr. Fournier . . 537
Case of Cerebellar Disease. By Dr. Kelp . 539
Reflex Paralysis. By Dr. F. Vizioli . . 540
An Account of a Demonstration of the Phenomena of Hystero-Epilepsy; and on the Modification which they undergo under the Influence of Magnets and Solenoids. By Dr. Arthur Gamgee 541
Fungus of Thrush. By Dr. Paul Grawitz 548
Histology of Mucous Patches on the Tonsils. By M. Cornil 548
Sublingual Ulceration in Pertussis. By Dr. Delthil and Prof. Henri Roger . . 549
Treatment of Obstinate Hiccough by Pilocarpine. By Dr. Ortille 550
Subcutaneous Injection of Sclerotinic Acid in Hæmoptysis. By Prof. von Ziemssen 551
Case of Congenital Narrowing of the Entire Aortic System, with Consecutive Great Hypertrophy of the Heart. By Dr. Knoevenagel 551

Surgery.

The Antiseptic Method in Extraction of Cataract. By Dr. A. Gräfe . . . 556
On Successful Removal of a Large Thyroid Tumour by Excision and Ligature. By Dr. Perassi 556
Injuries of the Kidney. By Prof. H. Maas 557
Operation for Phimosis by means of the Elastic Ligature. By M. Huet . . . 560
Tubercular Infiltration of Lymphatic Glands between the Bladder and the Rectum. By M. Lannelongue . . . 560
Case of Lithotomy, where the Suprapubic Operation was resorted to in consequence of the Size of the Stone. By Mr. R. S. Fowler 561
The Body-Temperature in Granulating Suppurative Inflammation of Joints. By Dr. König 562
Case of Radial Paralysis cured by Operation. By Prof. von Mosengeil . . . 562

Midwifery and Gynæcology.

Oxide of Zinc Ointment in Membranous Vaginitis. By Dr. Theophilus Parvin . 562
Removal of Uterine Cervical Stenosis by Electrolysis. By Dr. Leblond . . . 562
A Case of Atresia Uteri Gravidi. By Dr. J. von Dieterich 563
Results of Ovariotomy before and after Antiseptics. By Mr. T. Keith . . . 563
A Case of Tubercular Pelvic Peritonitis with Tubercle of the Ovaries and Suppurative Encysted Metritis, in a Girl aged Six Years. By Dr. Ch. Talamon . . 572

Medical Jurisprudence and Toxicology.

Saponin Poisoning. By Dr. F. Keppler . 572

Published Monthly, price $2.50 *per annum, free of postage.*

Also, furnished together with the AMERICAN JOURNAL OF THE MEDICAL SCIENCES *and the* MEDICAL NEWS AND LIBRARY *for* SIX DOLLARS *per annum in advance, the whole free of postage.*

HENRY C. LEA, Philadelphia.

INDEX.

Abdomen, contusion of, followed by peritonitis and encysted dropsy, 261
Abraham, calabarin, 7
Abscess, abdominal, with discharge of worms, 260
———, milk, arrest of, 527
Absinthe, 342
Acetonæmia, 294
Acne rosacea, treatment of, 170
Adam, analysis of milk, 484
Adamkiewicz, peptone, 290
Adams, spontaneous aneurism of dorsalis pedis artery, 182
Addison's disease, 10, 533
Adler, diphtheritic conjunctivitis, 215
Ahlfeld, condition of the decidua, a sign of mature ova, 426
Air, action of baths of compressed, 55
Alberts, blood tumors of pelvis, 285
Albumen in urine, peculiar form of, 408
Albuminuria in health, 244
——— of pregnancy, milk diet in, 328
Alcohol, effects of, 98, 342
Alcoholism, treatment of chronic, 345
Alexandroff, pilocarpine in eye diseases, 490
Alkalies, effect of, 52
Allbutt, brain forcing, 442
———, paracentesis in pleurisy, 114
Althaus, syphilitic nervous affections, 66
Amaurosis, puerperal, 219
Amenorrhœa, treatment of, 331
Amnesia, case of, 152
Amputation, subperiosteal, 38
Amyl nitrite, in ague, 496
Amyloid kidney, 456
———, diagnosis of, 407
——— lymphatic glands, 410
Anæmia, artificial, in diseases of limbs, 31
———, cerebral, opiates in, 444
———, diastalized remedies in, 494
——— of Addison, idiopathic, 10
———, progressive pernicious, 296
———, bones in, 410
———, transfusion in, 247
Anæsthesia, hysterical, 18
———, unilateral cerebral, 154
Anæsthetics, action of, 338
———, employment of, in labour, 40
Aneurism, miliary, 452
———, morphia as an aid to compression in, 321
——— of subclavian and axillary arteries treated by rest and diet, 322
———, ligature of innominate for, 416
Anningson, fracture of os calcis by muscular action, 135
Anthrax of face, treatment of, 86
Antiseptics, puerperal, 282
Anuria, long continued, 26
Anus, imperforate, 224
———, opening into bladder, 89
Aorta, congenital narrowing of, 551
———, perforation of, by foreign body, 76
Aortitis, acute, 405
Aphasia in children, 500
———, non-protrusion of tongue in, 298
Apoplexy, sanguineous, ergotine in, 499
——— with heart disease, 249
Appert, blood in inflammation, 533
Archambault, hydatid of liver in child, 455
Arsenic, action of, 386
——— in baby's powder, poisoning by, 428
Arteries, auscultatory phenomena of, 452
Arteritis, syphilitic, 406
——— cerebral, 18
Aschenborn, perforation of aorta, 76
Asthma treated by Sée's method, 300
Atheroma and gall-stones, 25
Athetosis, 391
Auerbach, action of lactic acid, 194
Aufrecht, loose cartilage becoming adherent after venous thrombosis, 420
———, parenchymatous inflammation, 460
Auspitz, anatomy of primary syphilitic induration, 127

Badal, diseases of lachrymal passages, 172
Bailly, secondary puerperal hemorrhage, 90, 187
Baldness, partial, 29
Balsam of Peru, therapeutic uses of, 489
Balz, thymol, 151
Balzer, dust in lungs after tracheotomy, 413
Bardenhewer, bronchiectasis, 161
Barlow, ovariotomy in a child, 427
———, paracentesis in pleurisy, 114
Barnes, effusion of blood into peritoneal cavity, 332
———, paracentesis in pleurisy, 115
Barwell, osteotomy in rickets, 133
Baths, continuous, 53
Baud, diastalized remedies in anæmia, 494
Baumgarten, obliterative endarteritis, 358
Belladonna in infantile diseases, 491
Benecke, gall-stones, 257
——— and atheroma, 25
———, growth of various organs, 245
Bennett, calcification of adipose tissue, 126
Berger, vertigo a stomacho læso, 24
Bernhardt, lead palsy and spinal paralysis of adults, 394
Berthier, a complex neurosis, 349

Berthollé, direct injections into bladder, 319
Beschorner, cysts of epiglottis, 21
Besnier, injections of chloroform, 51
Beumer, congenital absence of kidney, 241
Bidder, delayed union of fractured leg, 469
Biedert, sounding of Fallopian tube, 236
Billroth, removal of large lipoma, 517
Bitot, transfusion in anæmia, 247
Blache, infantile diarrhœa, 256
Bladder, direct injections into, 319
———, distended, simulating ovarian tumour, 478
———, foreign body in, 372
———, irritation of, use of quinia in, 320
Blatta orientalis in nephritis, 77
Blepharoptosis, cerebral, 215
Blepharospasm, 464
Blood-corpuscles, development of, 147, 433
———, migration of, in lung, 165
———, inflammation, 533
———, effusion of, into peritoneal cavity, 332
———, extravasation of, on dura mater, 142
——— pressure, respiratory variations of, in aortic system, 97
———, subcutaneous injection of defibrinated, 9
——— tumour of pelvis, 285
Boegehold, fatty effusion into pleura, 403
Bona, circumcision by galvano-cautery, 273
Bones in pernicious anæmia, 410
Boracic acid, 341
———, antifermentative action of, 7
——— in skin diseases, 462
Borodulin, mixed forms of typhus, 534
Bottini, ischuria from hypertrophied prostate, 88
Bouchardat, glycerine in diabetes, 169
Bouchut, chloral as an anæsthetic for children, 489
———, ophthalmoscope in tubercular meningitis, 105
Bourdon, motor centres for the limbs, 3
Bourott, anthrax of face, 86
Brain-forcing, 442
——, gunshot wound of, 267
Branchial fistulæ of external ears, 32
Briger, mode of action of cathartics, 487
Bright's disease, changes in the small vessels in, 258
Brissaud, congenital tumours of sacro-coccygeal region, 225
Broadbent, amnesia, 152
Brochard, sore nipples, 377
Bromide rash, treatment of, by arsenic, 362
Bronchiectasis, 161
Brown, antidote to poison oak, 335
Brown-Séquard, trophic disturbances, 354
Brunton, alcholism, 345
Buchwald, aneurism of pulmonary artery, 167
———, reversed writing in brain-disease, 198
Bucquoy, intestinal invagination, 305
Budin, delayed ligature of funis, 229
Bunz, salicylic acid in yellow fever, 499
Burns, sudden death after, 31, 462
Buzzard, blepharospasm, 464
Cæsarean section, 326, 327, 472
——— in osteomalacia, 186, 327
——— pregnancy with ovarian tumour, 229
Calabarin, 7
Calcification of adipose tissues, 126
Cameron, Colles's fracture, 523
Camphor as a narcotic for lunatics, 387
Cancer, diffusion of, along nerves, 265
Capranica, retinal red, 243
Carbolic acid, absorption of, and its recognition, 49
Carotid, ligature of common, for hemorrhage after erysipelas, 417
Cartilage, loose, becoming adherent after venous thrombosis with pulmonary embolism, 420
Castration, 418
Catalepsy with cerebral rheumatism, 537
Cataract, antiseptic extraction of, 556
Catgut, carbolized, 212
Cathartics, mode of action of, 487
Catillon, action of glycerine, 150
Cayley, hysterical anæsthesia, 18
———, ulcerative endocarditis, 21
Centrum ovale, physiology of, 193
Cercomonas intestinalis a cause of diarrhœa, 509
Cerebellar disease 350, 539
Cerebral localisation, clinical aspect of, 78
——— syphilis, 298
Chabalier, morphia in vomiting of pregnancy, 472
Charcot, chorea in old people, 249
———, hystero-epilepsy and the influence of magnets and solenoids, 541
———, influences of injuries upon development of hysteria and paralysis agitans, 345
———, rhythmical hysterical chorea, 158
———, sight in hysteria, 103
Charles, failure of milk diet in albuminuria of pregnancy, 328
Chirone, action of salicylic acid, 246
———, cyclamin, 341
Chloral as an anæsthetic for children, 489
——— enemata, 531
———, intravenous injections of, 148
———, undescribed effect of, 340
Chloroform and morphia, combined use of, 150
———, subcutaneous injections of, 51, 196, 247, 437
———, turpentine vapour in accidents from, 335
Chorda tympani, origin of, 337
Chorea in old people, 249
———, rhythmical hysterical, 158
Choroiditis, anterior, 172
Chrome yellow, poisoning by inhalation of, 239
Chrysophanic acid in psoriasis, 314
——— skin diseases, 264
Cinchonidine, action of, 195
Circumcision by galvano-cautery, 273
Clark, oxalate of cerium in chronic cough, 250
Clément, tremor following acute diseases, 389
Clitoris, removal of tumour of, 234
Club-foot, congenital, subperiosteal removal of astragalus, 135

Cohn, artificial anæmia in diseases of the limbs, 31
Cold-sound, on the, 128
Coletti, action of cinchonidine, 195
Colles's fracture, 523
Colomiatti, diffusion of cancer along nerves, 265
Concussion, pathology of, 80
Conjunctivitis, diphtheritic, 215
———————, epidemic, 81
Cornea, classification of inflammations of, 81
———, ulceration of, 81
Cornil, amyloid lymphatic glands, 410
———, histology of mucous patches on tonsils, 548
———, pathology of lymphatics, 512
———, syphilitic tonsils, 448
———, tubercle of serous membranes, 360
Coronary artery, thrombosis of, 207, 208
Cory, membranous dysmenorrhœa, 282
Cough, chronic, oxalate of cerium in, 250
Coursserant, anterior choroiditis, 172
Courty, amenorrhœa, 331
Cras, gums in lead-poisoning, 380
Creighton, pathological function of periosteum, 514
Créquy, treatment of hemorrhage, 30
Cripps, treatment of severe hemorrhage from wounds of neck, 274
Cruse, urine in sucklings, 194
Cuffer, cure of tubercular meningitis, 400
Cyanide of potassium poisoning, 286, 381
Cyclamin, 341
Cyr, sudden death in embolism, 344
Cyst, dermoid, removed by ovariotomy, 237

Dactylitis, syphilitic, 38
Davis, yellow fever, 497
Davy, effect of drill upon the heart, 303
Dawosky, nitrate of silver in chronic throat catarrh, 204
Deafness, influence of tobacco on, 518
Decidua of the ovum, a sign of mature or immature ova, 426
Dejerine, acute ascending paralysis, 399
Delore, injection of ergotine into uterus, 235
Delthil, sublingual ulceration in pertussis, 549
Demme, pilocarpin, 52
Denuce, ligature of common carotid for hemorrhage after erysipelas, 417
Depaul, influence of pregnancy on suckling, 188
———, intra-uterine rickets, 473
———, parturition obstructed by carcinoma of the cervix, 136
De Renzi, treatment of tetanus by rest, 110
Desnos, gonorrhœal rheumatism of the heart, 23
Diabetes, glycerine in, 169
———, sudden death in, 344
Diaphragm, paralysis of, with peculiar laryngeal symptoms, 77
Diarrhœa, infantile, treatment of, 256, 304
———, oxide of zinc in, 508
———, quinia in, 257
———, senile, 122
Dieulafoy, aspiration in effusion into knee-joint, 177
———, auditory disorders in Bright's disease, 413
Dieulafoy, thoracentesis, 75
Digitaline, hypodermic injections of, 193
Digitalis in heart affections, 116
Diphtheria and tracheotomy, 127
———, carbolized camphor in, 198
———, treatment of, 441
———————, by balsams, 198
Dislocations, uncommon forms of, 276
Dohrn, Cæsarean section, 472
Dorsalis pedis artery, aneurism of, 182
Drainage of eye by wire seton, 218
Dransart, miners' nystagmus, 85
Dropsy, jaborandi in cardiac and renal, 76
Dujardin-Beaumetz, hypodermic injection of chloroform, 196
——————, sphacelation of stomach, 453
Dumontpallier, hæmatocele consecutive to extra-uterine fœtation, 475
Duplay, concussion of spinal cord, 392
———, contusion of abdomen followed by peritonitis and encysted dropsy, 261
Dura mater, extravasation of blood on, 214
Duret, pathology of concussion, 80
Dust in lungs after tracheotomy, 413
Dysidrosis, 309
Dysmenorrhœa, membranous, 94, 282

Ears, branchial fistulæ of external, 32
——, discharges from, 220
Echinococcus of peritoneum, multiple, 125
Eczema, infantile impetiginous, 125
Eichhorst, rupture of gall-bladder, 25
Eichler, miliary aneurisms, 452
Eisenlohr, infantile paralysis, 250
Elbow-joint, disarticulation at, 325
Emphysema, cutaneous, following opening of a pulmonary cavity into an intercostal space, 75
Empyema, antiseptic treatment of, 414
Endarteritis, obliterative, 358
Endocarditis, malignant, with retinal changes, 506
———————, ulcerative, 21
Englisch, injection of alcohol in varix, 183
Epiglottis, cysts of, 21
Epileptic attacks after removal of tumour of dura mater, 501
Epiphysis, traumatic separation of, 524
Erichsen, extravasation of blood on dura mater, 214
———————, injuries of scalp, 213
Erysipelas, carbolic acid injections in, 495
Erythema nodosum, 212
Eulenburg, metalloscopy and metallotherapy, 532
Everett, faradic treatment of fibroids of uterus, 235
Ewald, changes in small vessels in Bright's disease, 258, 406
Exostoses, multiple, 322
Extra-uterine fœtation, 230, 278
———————, treatment of, 137, 185
Eye-diseases, influence of uterus on, 173
——, extraction of iron from, by magnet, 271
——, tuberculosis of, 465
Eyelids, syphilitic disease of, 86

Fallopian tube, sounding of, 236
Fats, preparation of, for absorption, 486

Faucon, gonorrhœal peritonitis, 24
Fedeli, vermifuge action of pumpkin-seeds, 54
Fenoglio, pneumatic treatment of aortic regurgitation, 206
Fenomenow, testis in typhus, 536
Ferrand, treatment of diphtheria, 441
Fever, simulation of, 238
Filhol, detection of iodine, 7
Fistula, hypogastric urinary, successfully treated by actual cautery, 34
Fitzgerald, glaucoma, 367
Flashar, carbolized catgut, 212
Fleury, foreign body in bladder, 372
Follicular malnutrition, 312
Forlanini, baths of compressed air, 55
Foster, ergotine in apoplexy, 499
Fournier, ignored syphilis, 537
Fowler, supra-pubic lithotomy, 561
Fox, dysidrosis, 309
——, follicular malnutrition, 312
——, paracentesis in pleurisy, 112
——, paralysis of diaphragm with peculiar laryngeal symptoms, 77
Fracture, cotton-wool dressings in, 135
————, ununited, 275
Franck, physiology of centrum ovale, 193
Friedberg, malpraxis in midwifery, 478
Funis, delayed ligature of, 229

Gallard, alcoholic gastritis in women, 122
————, writer's cramp, 109
Gallazzi, syphilitic dactylitis, 38
Gall-bladder, rupture of, 25
Gall-stones and atheroma of arteries, 25
————, their pathological relations, 257
Galli, cutaneous emphysema, 75
Gamgee, hystero-epilepsy and the influence of magnets and solenoids, 541
Gangrene of extremities, symmetrical, 470
Gastralgia, smoker's, 122
————, stomach-douche in, 209
Gastritis, alcoholic, in women, 122
Gastrotomy in irreducible retroversion of uterus, 191
Geissel, multiple echinococcus of peritoneum, 125
Genu valgum, subcutaneous extra-articular osteotomy for, 323
Gerhardt, hysterical paralysis of vocal cords, 204
Gies, arsenic, 386
Glandular affections, use of soft soap in, 211
Glaucoma, 366
————, causes of, 217
Glossitis, syphilitic interstitial, 272
Glottis, paralysis of dilator muscles of, 401
Gluck, surgical pathology of nerves, 314, 471
Glycerine, physiological action of, 150
Glycogen, 289
Goelet, hour-glass contraction of uterus before expulsion of fœtus, 228
Goltdammer, cold-water treatment of typhoid, 388
Gonarthrotomy, 134
Gonorrhœa, gurjun balsam in, 319
Gore, ligature of innominata, 416
Gould, injection of iodine in spina bifida, 131
Gowers, bromide rash, arsenic in, 362
————, peculiar form of albuminuria, 408
————, unilateral injury to spinal cord, 34
Gradenigo, keratoplasty, 215
Gräfe, antiseptic extraction of cataract, 556
Grawitz, fungus of thrush, 548
Green, hepatico-bronchial fistula, 450
Grenser, retroflexion of uterus in virgins, 286
Groedel, apoplexy with heart-disease, 249
Gross, gastric distension, 362
Growth of various organs, condition of, 245
Gruber, discharges from ear, 220
Gubler, digitalis and morphia in heart affections, 116
————, hypodermics of digitaline, 196
————, peritonism, 27
Gums in lead-poisoning, 381
Gunshot wounds of knee, antiseptic treatment of, 421
Guntz, detection of mercury in urine, 246
Gusserow, operative treatment of extra-uterine fœtation, 137
Guyot, quinia in diarrhœa, 257

Hæmatoblasts, 385
Hæmatocele consecutive to extra uterine fœtation, 475
Hæmoptysis, sclerotinic acid in, 557
Hagenbach, use of salicylates in fever, 197
Hamburger, absorption by vagina, 151
————, elimination of mercury, 51
Hammer, thrombosis of coronary artery, 208
Hardy, gonorrhœal rheumatism, 101
————, icteric urine, 511
Haussmann, cracked nipples, 425
Hayem, development of red blood-corpuscles, 147
————, hæmatoblasts, 385
————, microcythæmia, 152
Hearing, disorders of, in Bright's disease, 413
Heart, digitalis in valvular disease of, 451
—— disease, opiates in, 444
——, effect of military drill upon, 303
——, gonorrhœal rheumatism of, 33
——, hypertrophy of, and renal disease, 506
————————, with congenital narrowing of aortic system, 551
——, infarction of, 255
——, inversion of, 49
——, regurgitation of aortic valves of, pneumatic treatment of, 206
Heat, radiant, as a cause of insanity, 107
Hebra, continuous baths, 53
——, treatment of acne rosacea, 170
Heidenhain, saliva, 433
Hemiplegia, facial, 62
————, spinal, 109
Hemorrhage after erysipelas, ligature of common carotid, 417
———— from pancreas, 168
———— punctured wounds of neck, ligature of external carotid in, 274
————, puerperal, secondary, treatment of, 90, 187
————, treatment of, 30
————, uterine, transfusion for, 284
Hensgen, intestinal obstruction, 123
Hepatico-bronchial fistula, 450
Hernia, irreducible, 223
Heymann, abnormalities of spine simulating chest-disease, 164
Hiccough, jaborandi in obstinate, 353, 550

Hill, iodoform, 100
——, Sayre's treatment of spinal disease, 129
Hilty, acute hemorrhage from pancreas, 168
Hoffmann, digitalis in valvular disease, 451
Holtz, paralysis of spinal accessory, 110
Horstman, impairment of vision after hemorrhage, 365
Hubbard, puerperal convulsions, 525
Huchard, opiates in cerebral anæmia and heart disease, 444
Huet, operation of phimosis by means of elastic ligature, 560
Hueter, carbolic acid injections in erysipelas, 495
Hughlings-Jackson, non-protrusion of tongue in aphasia, 298
Hulke, aneurism of subclavian and axillary arteries treated by rest and diet, 322
Humerus, dislocation of, in puerperal convulsions, 474
Hunicken, sarcoma in spinal canal, 446
Hydatid of liver bursting into air-passages, 455
—————— in child, 455
Hydrocele, congenital, injections of alcohol in, 274
Hydrophobia, cure of, 297
Hymen, on the condition of, 189
Hyperpyrexia, treatment of, by cold, 41, 375
Hysteria, influence of injuries upon the development of, 345
Hystero-epilepsy and its modification under magnets and solenoids, 541

Ichthyosis, relation of, to membranous dysmenorrhœa, 264
Indican, excretion of, 5
Induration, primary syphilitic, 127
Inflammation, migration of blood-corpuscles in, 533
——————, parenchymatous, 460
——————, pathology of, 56, 291
Innominata, ligature of, for subclavian aneurism, 416
Insanity, climacteric, 140
————, puerperal, 329
Intercostal spaces, systolic retraction of, 23
Intestinal invagination, treatment of, 305
—————— obstruction by croupous inflammation, 508
——————————, symptoms and diagnosis of, 123
Intussusception, 370, 454
Iodine, detection of, 7
Iodoform, action of, 489
————, therapeutic uses of, 100
————, use of, in glandular swellings and cold abscesses, 513
Iron mixed with food, influence of, on blood, 101
Ischuria from hypertrophied prostate, 88
Israel, duplication of half of lower jaw, 174

Jacobs, salicin in rheumatism, 15
Jacquier, oxide of zinc in diarrhœa, 508
Jaffe, excretion of indican, 5
Jaundice, epidemic catarrhal, 122
Jaw, duplication of half of lower, 174
——, extirpation of central osteo-sarcoma of, 466
Johnson, Fallopian pregnancy, 278
Joints, body-temperature in granulating suppurative inflammation of, 562
Jones, laparotomy for intussusception, 370
——, multiple exostoses, 322

Kappesser, use of soft soap in glandular affections, 211
Katz, hydatid of liver bursting into air-passages, 455
Keith, ovariotomy and antiseptics, 563
Kelp, cerebellar disease, 539
Kempe, phimosis as a cause of rupture, 522
Keppler, saponin poisoning, 572
Keratoplasty, 215
Keriea, pilocarpine, 195
Kidney, abscess of, aspiration in, 511
————, amyloid, 456
————, congenital absence of one, 241
————, injuries of, 557
Kittler, paralytic disorders of voice in phthisis, 354
Kjönig, fistula of stomach, 370
Klapp, effects of strychnia, 531
Knauth, resection of scapula, 277
Knee, antiseptic treatment of gunshot wounds of, 421
———— joint, drainage of, 39
——————, effusion into, aspiration in, 177
——————————, iodine injection in, 278
———————, resection of, 325
Knoevenagel, congenital narrowing of aortic system, 551
Köbner, spinal hemiplegia, 109
Kœberle, dermoid cyst removed by ovariotomy, 237
————, gastrotomy in irreducible retroversion of uterus, 191
————, ovariotomy, 379
König, antiseptic treatment of empyema, 414
——, body-temperature in granulating suppurative inflammation of joints, 562
——, combined use of chloroform and morphia, 150
Korybutt-Daszkiewicz, degeneration and regeneration of nerves, 481
Krafft-Ebing, climacteric insanity, 140
Krone, value of sponge-tents, 95
Krönlein, tracheotomy in diphtheria, 127
Kuhn, contagious pneumonia, 449, 502
Kühne, regeneration of retinal purple, 147
Kustner, danger of disinfectant solutions in puerperal uterus, 473

Labour, missed, 472
Lacharriere, tobacco deafness, 518
Lachowicz, facial hemiplegia, 62
Lachrymal passages, diseases of, 172
Lactic acid, action of, 194
Lados, epileptic attacks after removal of tumour of dura mater, 501
Lahs, Cæsarean section in pregnancy with ovarian tumour, 229
Lancereaux, syphilitic cerebral arteritis, 18
Landouzy, blepharoptosis, 215
————, pathology of muscular atrophy, 354
Lange, paraplegia from cold, 353
Langenbeck, disarticulation at elbow, 325
————, resection of knee-joint, 325

Langley, physiology of saliva, 333
Lannelongue, tubercular infiltration of lymphatics between bladder and rectum, 560
Laparotomy for intussusception, 370
Laryngostroboscopy, 244
Larynx, simulation of fracture of, 175
———, stenosis of, 368, 448
———, tuberculosis of, tracheotomy, 161
———, wounds of, treatment of, 174
Laveran, infarction of heart, 255
———, parotidean orchitis, 401
———, thrombosis of coronary artery, 270
Lead-palsy and spinal paralysis, 394
—— poisoning, gums in, 380
Lebert, pregnancy and phthisis, 253
Leblond, amputation of cervix, 190, 527
———, electrolysis in stenosis of cervix, 562
Lediard, distended bladder simulating ovarian tumour, 478
Leg, delayed union of fractured, 469
Leger, acute aortitis, 405
Leonpacher, thoracentesis, 301
Leopold, poisoning by inhaling chrome-yellow, 239
Leroy, transfusion for uterine hemorrhage, 284
Letzerich, new form of mycosis œsophagi, 161
Leube, albuminuria in health 244
Leucocythæmia with paralysis of cerebral nerves, 387
Leyden, abscess of lung, 205
Liegeois, cerebral lesions in rheumatism, 443
Limbs, motor centres for, 3
Liquor amnii and its origin, 231
Lipoma, removal of large, 517
Lithotomy, suprapubic, 561
Lithotrity, fifty cases of, 521
Litten, acute miliary tuberculosis, 503
———, amyloid kidney, 456
———, changes of medulla of long bones, 516
———, endocarditis with retinal changes, 506
Liver, action of drugs on, 386
———, hydatid of, bursting into air-passages, 455
———————, in child, 455
Livon, diffusion of salicylate of soda, 485
Lorentzen, abdominal abscess with discharge of worms, 260
Lucas, abscess of kidney, aspiration in, 511
Ludewig, intussusception, 454
Lung, abscess of, 205
——, absorption of foreign body by, 404
Lupus erythematosus, pathology of, 212
Lussana, pneumogastric nerve, 6
Lymphatics, pathological anatomy of, 512
Lymphomata, malignant, 438

Maas, injuries of kidney, 557
Macan, milk fever, 328
Macewen, paraffin splints, 462
McKendrick, glycogen, 289
Mackenzie, glycosuric retinitis, 82
McKeown, extraction of iron from eye by magnet, 271
Magnan, alcohol and absinthe, 342
Magnets, effect of, on hystero-epilepsy, 541
Malbranc, stomach-douche in gastralgia, 209
Malpraxis in midwifery, 478
Mancini, cerebral rheumatism with catalepsy, 537
Manso, naso-pharyngeal-polypi, 465
Manz, epidemic conjunctivitis, 81
Marcacci, changes in sympathetic nerve in diffuse eczema, 263
Marchaud, peculiar branched formations of mucus in evacuations, 124
———, tubercle in muscle, 263
Marino, ergotin in neuralgia, 20
Maunder, irreducible hernia, 223
———, morphia as an aid to compression in aneurism, 321
———, removal of sarcoma of lower jaw without external incision, 419
Mauriac, syphilitic interstitial glossitis, 272
Meatus, external, closed by bony deposit, trephining of, 368
Medulla of long bones, changes in, 516
Meningeal affections in articular rheumatism, local treatment of, 387
Meningitis, tubercular, alleged cure of, 400
————————, ophthalmoscope in, 105
Meningo-encephalitis, 390
Mercier, perchloride of iron in zona, 198
Mercury, detection of, in urine, 246
———, elimination of, 51
Meschede, paralysis of dilator muscles of glottis, 401
Metalloscopy, 491, 532
Metallotherapy, 532
Meyer, costal processes of lumbar vertebræ, 529
———, sinus transversus of occipital bone, 529
Michelson, oxyuris vermicularis on the human skin, 30
———, partial baldness, 29
Microcythæmia, 152
Midwifery, malpraxis in, 478
Milk, analysis of, 484
—— fever, 328
Millard, fracture of skull by forceps, 89
———, tuberculosis of tongue, 317
Mireur, non-inoculability of semen in syphilis, 226
Moffatt, dislocation of humerus in puerperal convulsions, 474
Moleschott, use of iodoform in glandular swellings and cold abscesses, 513
Monstrosity, 474
Monton, cotton-wool in fractures, 135
Moos, trephining of external meatus, 368
Morand, paracentesis thoracis, 251
Mordillon, simulation of fracture of larynx, 175
Morphia in heart affections, 116, 451
Mosetig-Moorhof, complicated case of ovariotomy, 478
Mosler, local treatment of meningeal affections in rheumatism, 387
Motor centres for the limbs, 3
Moulard, transverse fracture of patella, 184
Mucus, peculiar branched formations of, in evacuations, 124
Mueller-Warnek, poisoning by cyanide of potassium, 286
Müller, missed labour, 472
———, ranula in new-born, 87

Murillo, treatment of vomiting of pregnancy by dilatation of cervix uteri, 184
Muscle, tubercle in, 263
Muscular atrophy consequent on joint disease, 228
————————, pathology of, 354
Mycosis œsophagi, new form of, 161
Mydriatics, 340
Myotics, 340

Nævus, treatment of, 471
Nairne, belladonna in night-sweating, 164
Narcosis, mixed, 54
Naso-pharynx, inspection of, from nostrils, 222
Nasse, influence of iron on the blood, 101
Nedopil, symmetrical gangrene of extremities, 470
Nephritis, blatta orientalis as a diuretic in, 77
————, chronic interstitial, 407
Nerve cells, magnitude of, 483
Nerves, regeneration of, 471, 481
————, surgical pathology of, 314
Nervous system, nutritive influence of, 145
————————, some affections of, dependent upon a gouty habit, 72
————————, syphilitic affections of, 66
Neumann, boracic acid in skin diseases, 462
————, chrysophanic acid in skin diseases, 264, 314
Neuralgia, ergotin in, 20
————, occipital, 111
Neurosis, a complex and exceptional, 349
————, cardiac, 118
Night-sweating, use of belladonna in, 164
Nipples, management of, 91
————, treatment of cracked, 425, 377
Noel, venous pulse from chloroform, 55
Nose, syphilitic di-ease of, 273
Nothnagel, cerebellar disease, 350
————, immigration of blood-corpuscles in lung, 165
Nystagmus, miners', 85

Occipital bone, sinus transversus, 529
Œdema, pulmonary, 404
Oedmansson, ulceration of urethra in women, 521
Oertel, laryngostroboscopy, 244
Oils, preparation of, for absorption, 486
Onimus, telegraphic writer's cramp, 200
Orchitis, parotidean, 401
Orlow, iodine injection in serous effusion of knee-joint, 278
Ortille, pilocarpin in hiccough, 353
Os calcis fractured by muscular action, 135
————, necrosis of, 374
Osler, bones in pernicious anæmia, 410
Osteomalacia, Cæsarean section in, 186
Osteo-sarcoma, 226
Otto, inhalation of salicylic acid in whooping-cough, 75
Oulmont, athetosis, 391
Ovariotomy, 379, 478
———————— and antiseptics, 563
———————— in a child, 427
Oxyuris vermicularis on the human skin, 30

Paganussi, inversion of heart, 49
Paget, branchial fistulæ of external ears, 32
Pallotti, hypogastric urinary fistula treated by actual cautery, 34
Panas, myotics and mydriatics, 340
Pancreas, acute hemorrhage from, 168
————, therapeutic employment of, 343
Paracentesis abdominalis by gradual drainage, 519
———————— in pleurisy, 112
———————— thoracis, 251
Paraffin splints, 462
Paralysis, acute ascending, 399
———— agitans, influence of injuries upon development of, 345
————, diphtheritic, 500
————, infantile, distortions in, 399
————————, causes of, 250
————, radial, cured by operation, 562
————, reflex, 540
————, spinal, in adults, 63, 394, 445
Paraplegia from cold, 353
Parrot, bones in hereditary syphilis, 36
————, hereditary syphilis, treatment of, 411
Parturition obstructed by carcinoma of the cervix, 136
Parvin, oxide of zinc in membranous vaginitis, 562
Patella, fracture of, transverse, 184
Pelvis, contracted, spontaneous delivery in, 41
Peptone, 290
Perassi, removal of thyroid by excision and ligature, 556
Periosteum, pathological function of, 514
Peritonism, 27
Peritonitis, gonorrhœal, 24
————————, tubercular pelvic, 572
Perroud, immobilization of thorax in pleurisy, 357
Personne, assimilation of quinia, 485
Petersson, embolism of pulmonary artery, 360
Phimosis as a cause of rupture, 522
————, elastic ligature in, 560
Phosphorus poisoning, 143
Phthisis, contagiousness of, 252
————, expectoration of, elastic fibres in, 253
————, influence of pregnancy on, 253
Piachaud, anæsthetics in labour, 40
Picard, action of morphia on heart, 451
Pierce, acute symptoms from wax, 219
Pierret, magnitude of nerve cells, 483
Pilocarpin, 52, 195
———————— in diseases of the eye, 217, 490
———————— in hiccough, 353
Pioch, use of iodized glycerine paint, 197
Pirocchi, tayuya in ulcers, 225
Placenta, myxoma of, 378
Playfair, treatment of puerperal septicæmia by cold, 41
Pleura, fatty effusion into, 403
Pleurisy, exudation in, diagnosis of, 356
————, immobilization of thorax in, 357
Pneumogastric nerves, 6
Pneumonia, contagious, 449, 502
————————, syphilitic, 162
Poinsot, bloodless tracheotomy, 223
————, castration, 418
————, osteo-sarcoma, 226
Polli, antifermentative action of boracic acid, 7, 341

Polypi, naso-pharyngeal, 465
Ponfick, sudden death after burns, 31, 462
Pons varolii, syphiloma of, 154
Poore, writer's cramp, 156
Popliteal artery and vein, rupture of, 178
Potain, senile diarrhœa, 122
Pouchet, origin of red blood-corpuscles, 433
Powder, poisoning by arsenical violet, 428
Pregnancy, duration of, 47
Prochownick, liquor amnii, 231
Psoriasis, treatment of, 170
Pterygium, 81
Puerperal antiseptics, 282
——— convulsions, treatment of, 525
——— fever, prevention of, 231, 279
——— septicæmia treated by cold, 41, 375
Pulmonary artery, aneurism of, 167
——— ———, embolism of, 360
——— valves, acute endocarditis, 302
Pulse, venous, from chloroform, 55
Pumpkin-seeds, vermifuge action of, 54
Purjess, jaborandi in dropsy, 76

Quinia, assimilation of, 485

Ranke, spina bifida, 468
———, undescribed effect of chloral, 340
Ranula in new born, 87
Ranvier, tactile corpuscles, 49
Rappert, absorption of foreign bodies by lungs, 404
Rash, anomalous, 310
Rectum, cancer of, 467
Reeves, osteotomy for genu valgum, 323
Retinal purple, regeneration of, 147, 243
Retinitis, glycosuric, 82
Revillout, smokers' gastralgia, 121
Reyher, antiseptic treatment of gunshot wounds of knee, 421
Reynolds, gouty affections of nervous system, 72
Rheinstaedter, vomiting in pregnancy, 424
Rheumatism, cerebral lesions of, 443
——— ——— with catalepsy, 537
———, gonorrhœal, 101
——— ——— of the heart, gonorrhœal, 23
———, salicin and salicylic acid in, 15, 58
Rhus toxicodendron, antidote for, 335
Rickets, intra-uterine, 473
———, osteotomy in, 133
Ripping, puerperal insanity, 329
Rivington, rupture of popliteal artery and vein, 178
Robson, uncommon forms of dislocation, 276
Roger, sublingual ulceration in pertussis, 549
Rosenbach, pleural exudations, 356
Rosenstein, idiopathic anæmia of Addison, 10
Rosenthal, syphiloma of pons, 154
———, unilateral cerebral anæsthesia, 154
Rossi, gunshot wound of brain, 267
Rousseau, gastrotomy in extra-uterine pregnancy, 185
Rowan, imperforate anus with opening into bladder, 89
Ruge, erosions of cervix, 476
Rutherford, action of drugs on the liver, 386

Sacharjin, syphilitic pneumonia, 162
Salicin in rheumatism, 15
Salicylate of soda, diffusion of, 485
Salicylates, use of, in febrile diseases, 197
——— ——— rheumatism, 58
——— ——— typhoid fever, 60
Salicylic acid, action of, 246
Saliva, physiology of, 433
———, reaction of, 530
Salomon, spinal paralysis in adults, 63, 445
Sangster, anomalous rash, 310
Saponin poisoning, 572
Sarcoma in spinal canal, 446
——— of lower jaw removed without external incision, 419
——— of scapula and humerus, 227
Saunders, amyl, nitrite of, in ague, 496
Scaini, sarcoma of scapula and humerus, 227
Scalp, injuries of, 213
Scapula, resection of, 277
Schinzinger, necrosis of os calcis, 374
Schmeltz, subcutaneous injection of defibrinated blood, 9
Schmidt, cure of hydrophobia, 297
Schneider, subperiosteal amputation, 38
Scholer, pterygium, 81
Schreiber, occipital neuralgia, 111
Schrœder, on the hymen, 189
Schrötter, laryngeal stenosis, 368
Schüller, ununited fracture, 275
Schultze, dilatation of uterus by tents, 423, 477
Schuster, syphilitic disease of nose, 273
Schwarz, aphasia in children, 500
Sciatica, cure of, by phosphorus, 353
Scriba, drainage of knee-joint, 39
———, gonarthrotomy, 134
Scurvy, pathological anatomy of, 440
Sée, use of salicylates in rheumatism, 58
Seeligmuller, causes of distortions in spinal paralysis of children, 399
Sellerbeck, simulation of fever, 238
Semen, non inoculability of, in syphilis, 226
Semmola, electricity in nervous vomiting, 257
Senator, auscultatory phenomena of arteries, 452
———, cardiac hypertrophy and renal disease, 506
———, chronic interstitial nephritis, 407
Serkowski, tracheotomy in tuberculosis of larynx, 161
Serous membranes, tubercle of, 360
Sight, disturbances of, in hysteria, 103
Sigmund, action of iodoform, 489
Simon, belladonna in infantile diseases, 491
Skerritt, intestinal obstruction by croupous inflammation, 508
———, rupture of spleen, 307
Skin diseases, boracic acid in, 462
——— ———, chrysophanic acid in, 264, 314
—, effects of irritation of, in syphilitics, 28
Skorczewski, absorption and excretion of water, 436
Skull, fracture of fœtal, by forceps, 89
Sloan, management of the nipples, 91
Smith, removal of tumour of clitoris, 234
———, summer diarrhœa of infants, 304
Sokolowski, elastic fibres in phthisical expectoration, 253

Solenoids, influence of, on hystero-epilepsy, 541
Solera, reaction of saliva, 530
Sorensen, progressive pernicious anæmia, 296
Southey, paracentesis abdominis by gradual drainage, 519
Spina bifida treated by injection of iodine, 131, 468
Spina, pathology of inflammation, 56
Spinal accessory nerve, paralysis of, 110
——— canal, sarcoma in, 446
——— cord, concussion of, 392
———, unilateral injury to, 34
———disease, Sayre's treatment of, 129
Spine, abnormalities of, simulating chest-disease, 164
Spleen, spontaneous rupture of, 307, 509
Splints, paraffin, 462
Squire, treatment of psoriasis, 170
Stadfeldt, duration of pregnancy, 47
Starcke, chloral enemata, 531
Stomach, distension of, complicating intestinal meteorism, 362
———, fistula of, 370
———, sphacelation of, 453
Stone, rupture of spleen, 509
Storch, myxoma of placenta, 378
Strychnia, effects of, 531
Suckling, influence of pregnancy on, 188
Sulpho cyanides in urine, 97
Swain, arrest of milk abscess, 527
Swanzy, influence of uterus in eye-diseases, 173, 267
Sympathetic nerve, changes in, in diffuse eczema, 263
Syphilis, cerebral, 298
———, hereditary, 411
———, ignored, 537
———, lesions of bone in hereditary, 36
———, transmission of, by a bite, 266

Tabes dorsalis, early symptom of, 202
Tactile corpuscles, structure of, 49
Talamon, tubercular pelvic peritonitis, 572
Tappenier, contagiousness of phthisis, 252
Tarnowsky, effects of irritation of skin in syphilities, 28
Tassius, imperforate anus, 224
Tayuya, use of, 225
Tebaldi, cerebral syphilis, 298
Teevan, fifty cases of lithotrity, 521
Telegraphic writer's cramp, 200
Tempesti, use of carbolic acid in typhoid fever, 248
Tents, value of sponge, 95
Testis, gangrene of, 176
——— in typhus, 536
Tetanus, treatment of, by rest, 110
Thiersch, mixed narcosis, 54
Thoracentesis, 75, 301
Thornton, local use of quinia in chronic irritation of bladder, 320
Throat catarrh, treatment of chronic, 204
Thrombosis of coronary artery, 207, 208
Thrush, fungus of, 548
Thymol, action of, 151
Thyroid, removal of, by excision and ligature, 556
Tillaux, clinical aspect of cerebral localization, 78
Tobacco, influence of, on deafness, 518
Tongue, removal of, with scissors, 87
———, tuberculosis, 317
Tonsils, syphilitic, 448
———, histology of mucous patches on, 548
Tortora, absorption of carbolic acid and its recognition, 49
Tracheotomy, bloodless, 223
——— in diphtheria, 127
——— tuberculosis of larynx, 161
———, penetration of dust into lungs after, 413
———, stenosis after, 448
Transfusion, 284
Tremor following acute diseases, 389
Trophic disturbances, 354
Troquart, action of intravenous injection of chloral, 148
Tube-casts, fibrinous, 460
Tuberculosis, acute miliary, 503
Tumours of pelvis, blood, 285
——— sacro-coccygeal region, congenital, 225
Typhoid fever, cold water treatment of, 388
———, use of carbolic acid in, 248
——— salicylates, 60
Typhus, mixed forms of, 534
———, testis in, 536

Ulcers, treatment of, 266
———, use of tayuya in, 225
Unterberger, blatta orientalis in nephritis, 77
Urethra, chronic ulceration of, 521
Urine, condition of, in sucklings, 194
———, icteric, 511
Urticata, febris intermittens, 125, 126
Uskow, scurvy, 440
Uterus, atresia of gravid, 563
———, cervix of, amputation of, 190, 527
———, dilatation of, by tangle tents, 428, 477
———, electrolysis in stenosis of, 562
———, erosions of, 477
———, hypertrophic syphilitic ulceration of, 140
———, changes in, from gestation, 425
———, fibroids of, faradic treatment of, 235
———, spontaneous expulsion of, 333
———, hour-glass contraction of, before expulsion of fœtus, 228
———, influence of, on eye-diseases, 173, 267
———, injection of ergotin into, 235
———, puerperal, danger of disinfectant solutions in, 473
———, removal of, 326, 327
——— chronically inverted, 140
———, in osteomalacia, 186
———, retroflexion of, in virgins, 286
———, retroversion, irreducible, gastrotomy in, 191

Vagina, absorption by, 151
Vaginitis, membranous, oxide of zinc in, 562
Vaitat, muscular atrophy, 228
Variola, delirium preceding eruption of, 248
———, use of iodized glycerine paint, 197

Varix, injection of alcohol in, 183
Verebélyi, subperiosteal removal of astragalus in congenital club-foot, 135
Vertebræ, costal processes of lumbar, 529
Vertigo a stomacho læso, 24
Viel, meningoencephalitis, 390
Vision impaired, after hemorrhage, 365
Vizioli, reflex paralysis, 540
Vocal cords, hysterical paralysis of, 204
Voice, paralytic disorders of, in phthisis, 354
Voigt, traumatic separation of epiphysis, 524
Volker, stenosis after tracheotomy, 448
Volkmann, cancer of rectum, 467
———, gangrene of testis, 176
Volquardsen, phosphorus in sciatica, 353
Vomiting, nervous, electricity in, 257
——— of pregnancy, 424, 472
———————, treatment of, by dilatation of cervix uteri, 184
Von Dieterich, atresia of gravid uterus, 563
Von Mosengeil, radial paralysis cured by operation, 562
Von Widmann, systolic retraction of intercostal spaces, 23
Vulpian, action of anæsthetics, 338
———, origin of chorda tympani, 337

Wachsmuth, turpentine vapor in accidents from chloroform vapor, 335
Water, absorption and excretion of, 436
Wax, symptoms from collection of, 219
Weber, puerperal amaurosis, 219
Wecker, drainage of eye, 218
Weinlechner, extirpation of central osteosarcoma of jaw, 466
Weiss, extra-uterine fœtation, 230
Welch, pulmonary œdema, 404
Westphal, early symptoms of tabes, 202
Wheelhouse, treatment of nævus, 471
Whitehead, removal of tongue with scissors, 87
Whitelaw, long-continued anuria, 26
Whooping cough, salicylic acid in, 75
———————, sublingual ulceration in, 549
Wiegardt, malignant lymphomata, 438
Wierrer, spontaneous delivery in contracted pelvis, 41
Williams, changes in uterus from gestation, 425
———, membraneous dysmenorrhœa, 94
Wiltshire, treatment of puerperal hyperpyrexia by cold, 375
Winternitz, Sée's method in asthma, 300
———————, the cold-sound, 128
Wiss, uses of balsam of Peru, 489
Witte, wounds of larynx, 174
Wittich, camphor as a narcotic, 387
Writer's cramp, 109, 156
———————, telegraphic, 200
Writing, reversed, in brain-disease, 198
Wylie, Addison's disease, 533

Yellow fever, 497
———————, salicylic acid in, 499
Ygovin, spontaneous expulsion of fibroid, 333

Zaufel, inspection of naso-pharynx from nostrils, 222
Zeissl, febris intermittens urticata, 125
———, syphilis from a bite, 266
———, syphilitic disease of eyelids, 86
Zencker, cardiac neurosis, 118
Ziemssen, injection of sclerotinic acid in hæmoptysis, 551
Zippe, delirium preceding the eruption of variola, 248
Zona, use of perchloride of iron in, 198
Zucker, cercomonas intestinalis a cause of diarrhœa, 509
Zweifel, prevention of puerperal fever, 279

NOTICE TO SUBSCRIBERS.

Subscribers are reminded of the advantages offered for remittance in advance for the year 1879. For SIX DOLLARS, in advance, they will receive "THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES," "THE MEDICAL NEWS AND LIBRARY," and "THE MONTHLY ABSTRACT OF MEDICAL SCIENCE," all free of postage, and containing in all more than 2100 large octavo pages.

Separate subscription to the "ABSTRACT," $2.50 per annum, in advance.

Neat cloth covers, gilt-lettered, for the two volumes of the "JOURNAL" and one volume of the "ABSTRACT," for 1878, will be mailed to subscribers, free of postage, on receipt of ten cents for each cover.

PREMIUMS FOR OBTAINING NEW SUBSCRIBERS.

Gentlemen who will remit in advance two subscriptions for the "AMERICAN JOURNAL OF THE MEDICAL SCIENCES," for 1879, *one of which must be for a new subscriber*, will receive as a premium, free of postage, one of the following volumes at their choice:—

Fothergill's Antagonism of Medicines, 1 vol. 12mo., cloth. (*Now Ready*)
Holden's Landmarks, Medical and Surgical, 1 vol. 12mo., cloth. (*New Ready*)
Browne's How to Use the Ophthalmoscope, 1 vol. 12mo., cloth.
Austin Flint's Essays on Conservative Medicine, 1 vol. 12mo., cloth.
Tanner's Clinical Manual, Second Edition, 1 vol. 18mo., cloth.
Swayne's Obstetric Aphorisms, Second Edition, 1 vol. 18mo., cloth.
Sturges's Clinical Medicine, 1 vol. 12mo, cloth.
Chambers's Restorative Medicine, 1 vol. 18mo., cloth.
West on Nervous Disorders of Children, 1 vol. 18mo., cloth.

☞ Remit by Bank Check, Postal Money Order, or Registered Letter.

Address,

HENRY C. LEA,

Nos. 706 and 708 Sansom Street, Philadelphia, Pa.

Supplement to Monthly Abstract, January, 1878.

TITLE AND CONTENTS

OF

ERICHSEN'S

SCIENCE AND ART OF SURGERY.

REVISED BY THE AUTHOR

FROM THE SEVENTH AND ENLARGED ENGLISH EDITION:

In two large Octavo volumes, containing nearly 2000 pages, with 862 handsome Engravings on Wood.

Price in Cloth $8.50; Leather, raised bands, $10.50.

NOW READY.

HENRY C. LEA, Philadelphia.

In revising this standard work the author has spared no pains to render it worthy of a continuance of the very marked favor which it has so long enjoyed, by bringing it thoroughly on a level with the advance in the science and art of surgery made since the appearance of the last edition. To accomplish this has required the addition of about two hundred pages of text, while the illustrations have undergone a marked improvement. A hundred and fifty additional wood-cuts have been inserted, while about fifty other new ones have been substituted for figures which were not deemed satisfactory. In its enlarged and improved form, it is therefore presented with the confident anticipation that it will maintain its position in the front rank of text-books for the student, and of works of reference for the practitioner, while its exceedingly moderate price places it within the reach of all.

Opinions of the Medical Press on the Former Edition of Erichsen's Surgery.

It is superfluous to repeat the encomiums with which we have from time to time greeted the appearance of successive editions of this invaluable work. It stands pre eminent among all the standard books on surgery. It is the great manual of practice. The present edition is a splendid specimen of the printer's and binder's art, and the publisher cannot be too highly commended for his good taste and liberality in sending out this cyclopædic treatise in such elegant garb — *Chicago Medical Journal*, March, 1873.

It contains more correct and practical information, with less error or useless information, than any of its present competitors.—*Dublin Journal Med. Sci*, March, 1873

One of Mr. Erichsen's merits is, that he bears in mind the wants of his readers, and really teaches them their art. Thus, his treatise is practical, is stamped with clinical authority throughout, and enshrines the experience of both teacher and surgeon. There is quite enough pathology to give a clear and definite idea of the most approved views, but it is obvious this must be made subservient to practice, for Mr. Erichsen teaches the Art of Surgery as well as the Science, and thus it is that his work is such a favorite, not only with students, but with practitioners, who constantly refer to it in cases of difficulty or anxiety. We have for long years used it thus, and the author has made the new edition as worthy as its predecessors to occupy such a place in any surgeon's library. — *Dublin Med. Press and Circular*, Nov. 13, 1872

A detailed description of a book with which all are familiar, is entirely unnecessary. Suffice it to say that additions and improvements are apparent throughout the entire work, and that it is acknowledged authority in the department of surgery, wherever the English language is spoken.—*Leavenworth Med. Herald*, July, 1873.

Erichsen's Surgery has been so frequently reviewed and noticed in the journals, and is so well known as a reliable authority, that it needs little recommendation at this time. It is a most excellent work, very popular, as the numerous editions prove. Its publication in two volumes is an advantage.—*St. Louis Med. and Surg. Journal*, July, 1873.

Considerable changes have been made in this edition, and nearly a hundred new illustrations have been added. It is difficult in a small compass to point out the alterations and additions; for, as the author states in his preface, they are not confined to any one portion, but are distributed generally through the subjects of which the work treats. Certainly one of the most valuable sections of the book seems to be that which treats of the diseases of the arteries and the operative proceedings which they necessitate. In few text-books is so much carefully arranged information collected.—*London Med. Times and Gaz.*, Oct. 26, 1872.

The present edition places the work fully abreast of the times in all improvements in modern surgery. Many chapters are re-written and re-arranged, and much useful matter has been added. The work has always been held in high estimation in the past, and the present edition fully entitles it to the confidence and support of the profession as a work of reference.—*Chicago Med. Examiner*, April 15, 1873.

For the library of every surgeon, Mr. Erichsen's Science and Art of Surgery is, we may say, indispensable —*London Med. Record*, Sept. 1873.

It is evident that no labor has been spared in the revised edition of this admirable text-book of surgery, to keep it well abreast of the advancement in surgical science and practice. The conservatism and completeness of the work in all the details of the art as well as the science of surgery, have been so well appreciated in this country, that it is scarcely necessary to do more than call the reader's attention to the fact that the advances made since the fifth edition was published—about three years ago—are carefully embraced in this sixth edition.—*Am. Journ of Syphilography*, Oct. 1873.

This work holds, most deservedly, the first rank as a "text-book." It is equally valuable to the student and practitioner.—*Cincinnati Lancet*, Sept. 1873.

These are only a few of the points in which the present edition of Mr. Erichsen's work surpasses its predecessors. Throughout there is evidence of a laborious care and solicitude in seizing the passing knowledge of the day, which reflects the greatest credit on the author, and much enhances the value of his work. We can only admire the industry which has enabled Mr. Erichsen thus to succeed, amid the distractions of active practice, in producing emphatically THE book of reference and study for British practitioners of surgery — *London Lancet*, Oct. 26, 1872.

There is no name and no book better known and more highly appreciated in all lands than Erichsen and his Surgery. As well might we attempt to gild refined gold as to add to the reputation of either by any words of ours. The profusion and excellence of the illustrations, and the skill and neatness displayed by the printer, enhance the value of the work.—*Pacific Med. and Surg. Journ.*, April, 1873.

There is scarcely a medical library, of even the smallest pretensions, in our country, which does not contain some edition of Erichsen. It is as familiar to the physician and student as a household word. . . . . Those who have old editions will want to replace them with the new, and those who have no edition of the work should by all means possess themselves of this new and improved one.—*Nashville Med and Surg. Journ.*, April, 1873.

For years past American students have regarded "Erichsen" as *the* surgical text-book *par excellence*. To the general practitioner the present edition is decidedly more valuable than its predecessors, although its main features of course are the same. —*Cincinnati Clinic*, March 22, 1873.

Unrivalled in the English language. *Canada Med and Surg. Journ.*, May, 1873.

THE

SCIENCE AND ART

OF

SURGERY.

BEING

A TREATISE ON SURGICAL INJURIES, DISEASES, AND OPERATIONS.

BY

JOHN ERIC ERICHSEN, F.R.S., F.R.C.S.,

SURGEON EXTRAORDINARY TO HER MAJESTY THE QUEEN; MEMBER OF COUNCIL AND OF THE COURT OF EXAMINERS OF THE ROYAL COLLEGE OF SURGEONS; EMERITUS PROFESSOR OF SURGERY AND OF CLINICAL SURGERY IN UNIVERSITY COLLEGE; CONSULTING SURGEON TO UNIVERSITY COLLEGE HOSPITAL, AND TO VARIOUS MEDICAL CHARITIES.

REVISED BY THE AUTHOR,

FROM THE SEVENTH AND ENLARGED ENGLISH EDITION.

Illustrated with Eight Hundred and Sixty-two Engravings on Wood.

VOL. I.

PHILADELPHIA:
HENRY C. LEA.
1878.

"*They be the best* Chirurgeons *which being learned incline to the traditions of experience, or being empirics incline to the methods of learning.*"

BACON on *Learning*

PREFACE

TO THE NEW AMERICAN EDITION.

I HAVE endeavored to make this Edition of "The Science and Art of Surgery" more deserving than those which preceded it have been of the favor that has been accorded to them by the Surgical Profession of the United States of America.

In consequence of unavoidable delays in the publication of the Seventh British Edition, I have found time to add to this one several paragraphs on important practical subjects, which will, I trust, be found to enhance the utility of the work as a guide to the Practitioner of Surgery.

I dedicate these volumes to the Surgical Profession of the United States of America, in testimony of the esteem which I entertain for that large and enlightened body of practitioners, and of the cordial friendship that exists between me and many of its members.

JOHN ERIC ERICHSEN.

LONDON, *October*, 1877.

PREFACE

TO THE SEVENTH ENGLISH EDITION.

The favor with which successive Editions of this Work have been received not only by the Profession in this country and its colonies, but by means of Reprints in the United States of America, and through the medium of translations on the Continent of Europe, gratifying as it necessarily is to the Author, has in no small degree increased his responsibilities.

The Author feels that a responsibility, weighty in proportion to the very extent of the diffusion of his Instruction, is incurred by him who takes upon himself the task of teaching others that Science which underlies the Art, and that Art, the exercise of which constitutes the application to Practice of a great branch of Medical Knowledge, which more directly than any other department of Medicine involves the physical well-being, and more immediately affects the life of those on whom it is exercised.

It is not sufficient for the Teaching of a Scientific Art, such as Surgery, to be sound in those General Laws that constitute its Principles. It must also be accurate in those minute details that are necessary to its successful Practice, and, above all, just in its estimate of the labors of others.

A Teacher of Surgery, who seeks to give a true and impartial view of the subject of his tuition, is placed in much the same position as a Judge who is summing up a great cause.

He must endeavor to divest himself of the trammels of the Schools—to free himself alike from the partisanship of individual bias and the antagonism of professional prejudice.

He must lay down clearly the broad General Principles on which the Case rests; detail its facts in an orderly and succinct manner, draw those deductions which legitimately flow therefrom, and guide his Pupils to arrive at just conclusions by the light of his own more matured and extended experience.

Feeling deeply the responsibilities that thus attach themselves to him as a Teacher, the Author has spared no exertion in endeavoring to render the Seventh Edition of "The Science and Art of Surgery" worthy of the continued confidence of the Profession.

With this view the whole Work has been carefully revised, and while no change has been made in the general arrangement of the various subjects of which it treats, much new and important matter has been added. The additions thus made have not been confined to any one particular part, but have been widely distributed through the various subjects of which the Work treats. They are not to be measured merely by the increased bulk of the Work, being, in reality, far more extensive than may at first appear, as they often take the place of old matter that, having become obsolete, has been cancelled.

One Hundred and Fifty new Illustrations have been added to the Text, and many of the old ones have been redrawn in an improved style. Whenever a Woodcut has been copied from another Work, the name of the Author of the Work whence it has been taken has been appended to it. When no such acknowledgment is made, the Figure is original, belongs exclusively to this Work, and, except in the case of Diagrams, has been drawn from Nature.

To his friend and former Pupil, Mr. R. I. Godlee, the Author is indebted for a series of Microscopical Illustrations of Pathological Subjects, which have been drawn expressly for this Work. They are alike true to nature and admirable in execution, and will, it is hoped, be found of much use to the Student of Surgical Pathology.

Throughout the Work it has been the object of its Author to place before the Student and Practitioner the Science and the Art of Surgery, not as consisting merely in the observation of such Injuries, Diseases, and Malformations, as are met with in Surgical Practice, or in the dexterous application of manual or operative means for their relief; but as demanding an exercise of general medical knowledge, and a thorough acquaintance with all those conditions, whether intrinsic to the patient, or surrounding him, that favor or prevent his restoration to health. The remarks in the earlier part of the First Chapter will, it is trusted, sufficiently indicate to the Student what is required of him in order that he may become a successful Practitioner of Surgery.

In every instance an endeavor has been made to give as full and clear a description of Symptoms, Pathology, Diagnosis, and Treatment, as the importance of each demands, and the present state of Surgical knowledge permits.

The various new Operations practised in modern Surgery have been carefully described, the difficulties and dangers attending their performance pointed out, and the cases requiring them detailed.

The growing importance of Surgical Hygiene has led to special attention being paid to it in the Chapters on Operations, Wounds, and Septic Disease.

With respect to Diagnosis it may be remarked that, as accuracy in this branch is an all-important requisite for success in Treatment, the signs and symptoms by which the injury or disease under consideration may be recognised, have not only been described in each case, but care has been taken, even at the risk of occasional repetition, to point out the several conditions with which it may be confounded, and the means of distinguishing it from each of them.

In order to facilitate reference to the very varied subjects of which the Work treats, each Volume has been furnished with a Table of Contents, a List of Illustrations, and an extended Etymological Index.

It only remains for the Author to record his acknowledgments to his friends, Messrs. Beck and Tweedy, who have given him their valuable assistance in his endeavor to bring this Edition to the level of modern scientific Surgery. To Mr. Beck the Author is especially indebted for much valuable assistance throughout the Work, but more especially in those Chapters that relate to general Surgical Pathology.

In conclusion the Author can but hope that this Edition of the "Science and Art of Surgery" may not be found undeserving of the continued confidence of the Surgical Profession, as a guide to the Practitioner, and a Text-Book for the Student in Surgery.

JOHN ERIC ERICHSEN.

6, Cavendish Place, London,
October, 1877.

CONTENTS OF THE FIRST VOLUME.

DIVISION FIRST.

FIRST PRINCIPLES.

Chapter I.—General Considerations on Operations.

PAGE

Objects of Surgical Operations—Present Position of Operative Surgery—Manual Dexterity and Scientific Knowledge Required 25–28

Conditions Influencing Success of Operations—State of General Health—Hygienic Conditions—Special Conditions excited by the Operation itself 28–38

Preparations for Operation 39–40

Employment of Anæsthetics—History—Influence on Mortality after Operations—Chloroform—Its Administration—Secondary Effects—Death from Chloroform—Ether—Comparison between Ether and Chloroform—Nitrous Oxide Gas—Nitrous Oxide and Ether—Bichloride of Methylene—Treatment of Effect of Over-dose of Anæsthetics—Local Anæsthesia 40–53

Performance of an Operation—Incisions—Bloodless Methods—Sutures—Dressing—Constitutional After-Treatment—Remote Effect of Major Operations 54–59

Chapter II.—Amputations and Disarticulations.

Performance of an Amputation—Prevention of Hæmorrhage—Modes of Cutting through the Soft Parts—Amputation by Circular Method—Flap Amputation—Instruments—Double Flaps—Liston's Method—Rectangular Flaps—Teale's Operation—Spence's and Lister's Methods—Long Flap—Sawing the Bone—Arrest of Hæmorrhage—Dressing the Stump—Simultaneous or Rapidly Consecutive Amputation of two Limbs 59–71

Stumps—Structure of a Stump—Artificial Limbs—Morbid Conditions of Stumps—Necrosis—Conical or Sugar-loaf Stumps—Aneurismal Enlargement of Arteries—Painful and Spasmodic Stumps—Strumous, Malignant, and Fatty Degeneration of Stumps 71–74

Mortality after Amputation—Age—General Health—Hygienic Conditions—Influence of Shock and Septic Disease—Seat of Amputation—Part of Bone—Injury or Disease—Nature of Disease—Time of Performance—Primary and Secondary Amputations—Summary 74–86

Chapter III.—Special Amputations.

Amputations of the Upper Limb—Fingers—Metacarpo-Phalangeal Articulations—Thumb—Metacarpal Bones—Wrist—Forearm—Arm—Shoulder-Joint—By Transfixion—Larrey's Oval Method—General Results of Amputations of the Upper Limb 86–100

PAGE

AMPUTATIONS OF THE LOWER LIMB—Toes—Metatarso-Phalangeal Articulations—Metatarsal Bone of Great Toe—of Little Toe—Amputation of Metatarsus—Hey's Operation—Amputation through Tarsus—Chopart's Operation—Syme's Disarticulation at the Ankle-Joint—Pirogoff's Amputation—Subastragaloid Amputation—Results of Amputations of Foot—Amputations of Leg—Flap Amputation—Circular Operation—Results—Amputation through Knee-Joint—By Anterior and Posterior Flaps—By Lateral Flaps: Smith's Method—Amputation through Condyles: Carden's and Lister's Operations—Results of Amputation through Knee-Joint or Condyles—Amputation of Thigh—Vermale's Operation—Amputation of Middle and Upper Thirds of Thigh—Through Trochanters—Results of Amputation of Thigh—Amputation at Hip-Joint—Results 100–128

CHAPTER IV.—INFLAMMATION.

CONGESTION—Symptoms—Effects—Causes—Treatment . . . 129–130

DETERMINATION—Symptoms—Effects—Causes—Treatment . . 130–132

ACUTE INFLAMMATION—Phenomena—Vessels—Blood—Tissues—Symptoms—Local Signs—Alterations of Color—of Size—of Sensibility—Temperature—Modifications of Function, Use, or Nutrition—Constitutional Symptoms—Inflammatory Fever or Pyrexia—Sthenic, Asthenic, and Irritative—Terminations—Acute Inflammation—Resolution—Metastasis—Extension—Effects—Effusions—Changes in Nutrition—Changes in Secretion of Tissues and Organs—Varieties of Inflammation—Duration—Intensity—Character—Causes—Treatment—Preventive—Curative—Treatment—Acute Inflammation with Sthenic Fever—Constitutional—Local—Treatment of Acute Inflammation with Asthenic and Irritative Fever 132–155

CHRONIC INFLAMMATION—Pathology—Phenomena—Constitutional Symptoms—Causes—Treatment, Constitutional and Local 155–160

CHAPTER V.—SUPPURATION AND ABSCESS.

SUPPURATION—Characters of Pus—Microscopic Characters—Diagnosis—Pyogenesis—Relation of Suppuration to other Changes in the Tissues—Circumstances influencing Tendency to Suppuration—Duration—Symptoms—Hectic 160–165

ABSCESS—Definition—Acute or Phlegmonous—Diffuse—Metastatic—Chronic—Cold, Lymphatic or Congestive—Tympanitic or Emphysematous—Situation and Size—Effects—Diagnosis—Prognosis—Treatment—Of Acute Abscess—Of Chronic Abscess—Incisions—Tapping—The Aspirator—Potassa Fusa—Seton—Drainage-Tubes—Antiseptic Treatment—Constitutional Treatment—Hæmorrhage into Cavity of Abscess—SINUS AND FISTULA—Causes—Structure—Treatment 165–179

CHAPTER VI.—ULCERATION.

ULCERATION defined—Causes—Situation—Stages—Repair of Ulcers—Granulation—Cicatrisation—Treatment—Transplantation of Cuticle—Constitutional Treatment 179–186

FORMS OF ULCER—Healthy or Purulent—Weak—Indolent or Callous—Irritable—Inflamed—Sloughing—Varicose—Hæmorrhagic—On Mucous Membranes 186–190

Chapter VII.—The Process of Repair.

PAGE

Modes of Union of Wounds—Immediate Union—Scabbing or Incrustation — Adhesive Inflammation —Vascularisation of Lymph — Degeneration of Lymph — Granulation — Union by Secondary Adhesion — Circumstances affecting the Healing Process 190-195

DIVISION SECOND.

SURGICAL INJURIES.

INJURIES AFFECTING THE TISSUES GENERALLY.

Chapter VIII.—Constitutional Effects of Injury.

Shock—Symptoms—Causes—Pathological Appearances—Treatment—Operation during Shock 196-199

Traumatic Fever 199

Traumatic Delirium—Inflammatory—Irritative or Nervous . . 199-200

Remote Effects of Injury—Constitutional—Local 200-201

Chapter IX.—Injuries of Soft Parts.

Contusions— Extravasation — Causes— Degrees — Diagnosis— Treatment— Strangulation of Parts 201-204

Wounds—How Classified 204

Incised Wounds—Symptoms—Management—Local Treatment—Arrest of Hæmorrhage—Removal of Foreign Bodies—Coaptation—Prevention of Decomposition—Antiseptic Treatment of Wounds—Free Exit of Secretions—Inflammation of Incised Wounds—Faulty Cicatrices . . . 204-223

Contused and Lacerated Wounds—Characters—Sloughing—Traumatic Gangrene—Treatment—Amputation.—Brush-burn—Treatment . 223-232

Punctured Wounds—Treatment—Arrow-Wounds 232-234

Chapter X.—Gunshot-Wounds.

Gunshot-Wounds in General—Characters—Nature and Force of Projectile—Direction—Apertures of Entry and Exit—Symptoms—Treatment—Arrest of Hæmorrhage—Extraction of Foreign Bodies—Treatment of Wound —Cases requiring Amputation.—Gunshot-Wounds of Special Bones and Joints—Excision in Gunshot-Wounds 234-254

Chapter XI.—Poisoned Wounds.

Stings of Insects—Treatment 254

Snake-Bites—Effects of Snake-Poison—Symptoms—Treatment . 255-257

Bites of Rabid Animals: Hydrophobia—Symptoms—Rabies in the Dog—Prognosis—Pathology—Treatment 257-263

Wounds with Inoculation of Decomposing Animal Matter—Causes—Symptoms—Treatment 263-266

Chapter XII.—Effects of Heat and Cold.

PAGE

Burns and Scalds—Local Effects—Degrees—Constitutional Effects—Prognosis—Mode of Death from Burns—Treatment—Prevention and Removal of Contraction—Operation—Warty Cicatrices—Amputation . . 266-276

Frost-Bite—Local Influence of Cold—Constitutional Effects—Treatment 276-278

Chapter XIII.—Injuries of Blood-Vessels.

Injuries of Veins—Venous Hæmorrhage—Diffuse Inflammation of Veins 278

Injuries of Arteries—Contusion—Rupture and Laceration—Wounds, Non-penetrating and Penetrating 278-280

Hæmorrhage from Wounded Vessels—Local Signs—Distinctive Characters of Arterial and Venous—Extravasation—Constitutional Effects—General Treatment—Transfusion of Blood 280-284

Chapter XIV.—Arrest of Arterial Hæmorrhage.

Natural Arrest of Hæmorrhage—History of Investigations—Temporary Means—Coagulation of Blood and Diminution of Heart's Action—Retraction and Contraction of the Artery—Formation of Coagulum—Permanent Closure of Artery—Adhesion—Contraction—Arrest of Hæmorrhage from Punctured or Partially Divided Arteries 285-289

Surgical Treatment—Temporary Means—Compression of Artery—Tourniquet—Permanent Means—Cold—Styptics—Cauterisation—Direct Pressure—Forcible Flexion—Torsion—Torsion and Ligature Compared—Ligature—History—Principles—Application—Modifications—Wire and Catcut Ligatures—Effects of Ligature—Acupressure—Acupressure and Ligature Compared—Collateral Circulation 289-314

Accidents after Arterial Occlusion by Surgical Means—Secondary or Recurrent Hæmorrhage—Causes—Phenomena—Periods of Occurrence—Treatment—Gangrene following Ligature—Causes—Character—Treatment 314-322

Chapter XV.—Traumatic Aneurism and Arterio-Venous Wounds.

Traumatic Aneurism—Diffused—Treatment—Circumscribed—Treatment 322-326

Arterio-Venous Wounds—Aneurismal Varix—Symptoms—Treatment—Varicose Aneurism—Pathology—Treatment 326-329

Chapter XVI.—Wounds of Special Blood-Vessels.

Vessels of Head and Neck—Carotid Artery—Aneurismal Varix in Neck—Traumautic Aneurism of Temporal Artery—Hæmorrhage from Deep Arteries of Face—Wounds of Vertebral Artery 330-331

Vessels of Upper Limb—Subclavian Artery—Wound—Aneurismal Varix—Axillary Artery—Open Wounds—Traumatic Aneurism—Brachial Artery—Wounds—Traumatic Aneurism—Varicose Aneurism—Aneurismal Varix of Arm—Vessels of Forearm and Palm—Traumatic Aneurism of Radial and Ulnar Arteries—Wounds of Palmar Arches—Circumscribed Traumatic Aneurism in Palm 331-337

PAGE

VESSELS OF LOWER LIMB—Femoral Artery—Diffused Traumatic Aneurism—Varicosé Aneurism—Vessels of Leg and Foot—Wounds and Traumatic Aneurisms—Traumatic Aneurism of Gluteal Artery . . . 337-339

CHAPTER XVII.—ENTRANCE OF AIR INTO VEINS.

AIR IN VEINS—Results of Experiments on Animals—Spontaneous Entry in Man—Local Phenomena—Constitutional Effects—Cause—Preventive Treatment—Curative Treatment—Indications to be followed . . . 340-346

CHAPTER XVIII.—INJURIES OF NERVES, MUSCLES, AND TENDONS.

INJURIES OF NERVES—Contusion—Puncture—Division—Repair—Treatment 346-348

INJURIES OF MUSCLES AND TENDONS—Sprains or Strains—Rupture and Division—Union—Treatment—Rupture of Tendo Achillis, &c. . . 348-350

CHAPTER XIX.—INJURIES OF BONES AND JOINTS.

INJURIES OF BONES—Bruising—Bending 350-351

INJURIES OF JOINTS—Contusions—Sprains—Treatment—Wounds of Joints—Symptoms and Effects—Traumatic Arthritis—Treatment of Wounded Joints.—WOUNDS OF INDIVIDUAL JOINTS—Hip and Shoulder—Knee—Elbow and Ankle—Wrist 351-356

CHAPTER XX.—FRACTURES.

FRACTURE—Causes—Varieties—Nature—Direction—Separation of Epiphyses—Signs—Union—Of Simple Fracture—Of Compound Fracture . 356-367

TREATMENT OF FRACTURE—Constitutional Treatment of Simple Fracture—Surgical Treatment—Reduction—Prevention of Return of Displacement—Bandages—Splints—Starched Bandage—Plaster of Paris Bandage.—ACCIDENTS DURING TREATMENT—Crutch-palsy—Spasm—Œdema—Extravasation of Blood—Gangrene—Pulmonary and Cerebral Congestion.—COMPLICATED FRACTURES—Treatment.—COMPOUND FRACTURE—Question of Amputation—Reduction—Closure of Wounds—Local and Constitutional After-Treatment—Secondary Amputation—Bending, Rebreaking, and Resetting Bones—Delayed Union—Ununited Fracture and False Joint—Causes—Treatment 367-398

CHAPTER XXI.—SPECIAL FRACTURES.

FRACTURES OF THE BONES OF THE FACE.—NASAL BONES—Septum Narium—Lacrymal Bone.—MALAR AND UPPER JAW-BONES—Separation of all the Bones of the Face—Gunshot Injuries of Face.—LOWER JAW—Situations—Signs—Treatment—Fracture of Lower Jaw by Gunshot—Hyoid Bone 399-403

FRACTURES OF THE BONES OF THE CHEST—Ribs and Costal Cartilages—Symptoms—Treatment—Sternum 403-405

FRACTURES OF THE UPPER EXTREMITY.—CLAVICLE—Complications—Situations—Signs—Comminuted Fracture of Clavicle—Treatment of Simple Fracture—Of Comminuted Fracture.—SCAPULA—Fracture of Body of Bone

PAGE

Near Shoulder-Joint — Acromion — Coracoid Process — Neck of Scapula.— HUMERUS—Of Upper Articular End—Intracapsular—Extracapsular—Impacted Extracapsular Fracture — Compound Fracture of Surgical Neck—Separation of Great Tubercle — Compound and Comminuted Fracture of Head of Humerus—Fractures of Shaft—Near Elbow-Joint—Separation of Lower Epiphysis—Transverse Fracture of Lower End—Fracture of Condyle—Injury of Nerves in Fracture of Humerus—Compound and Comminuted Fractures of Elbow-Joint.—FOREARM—Olecranon—Coronoid Process of Ulna—Middle of Forearm—Lower Extremity of Radius—Deformity—Mechanism—Treatment—Metacarpus and Fingers 405–425

FRACTURES OF THE PELVIS AND THE LOWER EXTREMITY.—PELVIS—Acetabulum—Sacrum—Coccydynia.—THIGH-BONE—Of Pelvic End — Intracapsular—Cause—Signs—Mode of Union—Extracapsular Fracture—Impacted Fracture—Diagnosis—Compound Fracture of Neck of Bone—Fracture of Trochanter Major—Of Shaft—Treatment—Of Compound and Comminuted Fracture — Fracture near Knee-Joint. — PATELLA — Union — Treatment—Compound and Comminuted Fracture—Necrosis.—BONES OF LEG—Treatment of Simple Fracture—Compound Fracture of Tibia—Treatment—Hæmorrhage—Fractures near Ankle-Joint—Pott's Fracture—Signs—Treatment—Compound Fracture into Ankle-Joint—Badly set Fractures near Ankle—Fracture of Calcaneum—Astragalus—Tarsal Bones—Metatarsal Bones 425–456

CHAPTER XXII.—DISLOCATIONS.

DISLOCATIONS Defined — Causes — Signs — Effects — Treatment — Mechanical Contrivances — Manipulation — Extension — Dislocation of old Standing — Obstacles to Reduction—Anæsthesia—Accidents in Attempts at Reduction—Compound Dislocation—Treatment—Complications—Spontaneous Dislocation—Treatment—Congenital Dislocation 456–469

CHAPTER XXIII.—SPECIAL DISLOCATIONS.

DISLOCATIONS OF THE LOWER JAW—Causes—Bilateral—Unilateral—Subluxation—Reduction—Congenital Dislocation 469–471

DISLOCATIONS OF THE UPPER LIMB — Clavicle — Sternal End — Outer End — Simultaneous of both Ends.—SCAPULA.—SHOULDER-JOINT—Signs—Varieties — Subcoracoid — Subclavicular — Subspinous — Subglenoid — Partial—Causes—Relative Frequency—Diagnosis—Reduction—Compound—Complications—Congenital — Unreduced—Accidents in Attempting Reduction.—ELBOW-JOINT—Both Bones—Ulna—Radius—Complications — Reduction—Compound — Old Unreduced Dislocations.—WRIST—Hand and Carpus—Backwards — Forwards — Diagnosis — Compound — Congenital. — SINGLE CARPAL BONES — Os Magnum — Pisiform — Semilunar. — METACARPAL BONES.—METACARPO-PHALANGEAL JOINTS—Thumb — Reduction.— PHALANGES OF FINGERS 471–493

DISLOCATIONS OF THE LOWER LIMB—Pelvis—Pubic Symphysis—Sacro-iliac Articulation — Coccyx.— FEMUR — Cooper's Classification — Importance of Ilio-femoral Ligament—Bigelow's Classification—Varieties—Modes of Reduction—Ilio-sciatic—Reduction—On Thyroid Foramen—Reduction—On Pubic Bone — Reduction — Subspinous Dislocation — Supraspinous Dislocation—Everted Tarsal—Irregular Dislocations—Reduction of Old Dislocation—

PAGE

Complication with Fracture—Simultaneous—Congenital.—PATELLA—Directions.—KNEE—Varieties—Subluxation—Complications—Compound Dislocation—Head of Fibula.—ANKLE—Varieties—Compound—Treatment.—ASTRAGALUS—Varieties—Treatment—Compound.—TARSAL BONES—Calcaneum and Scaphoid—Calcaneum—Scaphoid and Cuboid—Great Cuneiform.—METATARSAL BONES—Phalanges of Toes 493-515

CHAPTER XXIV.—INJURIES OF THE HEAD.

CEREBRAL COMPLICATIONS OF INJURIES OF THE HEAD—Concussion—Compression—Cerebral Irritation—Contusion of the Brain—Effects of Cerebral Injury on Mental Powers—Traumatic Encephalitis—Intracranial Suppuration—Pyæmia—Treatment of Concussion—Of Encephalitis—Of Cerebral Irritation—Of Coma from Compression—Of Pus within Skull—Of Pyæmia 516–528

INJURIES OF THE SCALP—Contusions—Cephalæmatoma—Pathology—Wounds—Treatment 528–532

FRACTURES OF THE SKULL—Contusion of Cranial Bones—Causes and Varieties of Fracture—Contre-coup—Simple Fracture—Chronic Hydrocephalus—Fracture of the Base of the Skull—Signs—Hæmorrhage—Discharge of Watery Fluid—Treatment—Depressed Fracture—Varieties—Symptoms—Wounds of the Dura Mater—Treatment of Depressed Fracture—Punctured Fracture—Linear Cuts—Ultimate Results of Fracture of Skull—Complication with Injury of Spinal Column 532–548

INJURIES OF THE CONTENTS OF THE CRANIUM—Wounds of the Brain and its Membranes—Causes—Symptoms and Effects—Diabetes—Mode of Death—Injuries of Cerebral Nerves—Treatment—Hernia or Fungus Cerebri—Treatment—Extravasation of Blood within the Skull—Causes—Situations—Symptoms—Diagnosis—Trephining 548–557

OPERATION OF TREPHINING 557–559

CHAPTER XXV.—INJURIES OF THE SPINE.

CONCUSSION OF THE SPINAL CORD—Definition.—CONCUSSION FROM DIRECT VIOLENCE—Primary Symptoms—Secondary Symptoms—Causes of Death—Injuries of Vertebral Column—Effect of Slight Blows.—CONCUSSION FROM INDIRECT VIOLENCE—Secondary Effects—Pathological Conditions—Meningitis and Myelitis—Impairment of Vision from Spinal Injury—Diagnosis—Prognosis of Spinal Concussion—Treatment 560–578

WOUNDS OF THE SPINAL CORD—Symptoms—In Lumbar or Lower Dorsal Region—In Upper Dorsal Region—In Lower Cervical Region—Above Phrenic Nerve—Partial Division 578–580

MECHANICAL INJURIES OF THE VERTEBRAL COLUMN.—TWISTS, STRAINS, OR WRENCHES—Symptoms—Prognosis.—FRACTURE—Signs and Symptoms—Prognosis—Treatment—Trephining the Spine.—DISLOCATIONS—Of Atlas from Occipital Bone—Of Axis from Atlas—Of Five Lower Cervical Vertebræ—Causes—Of Transverse Processes of Cervical Vertebræ—Of Dorsal Vertebræ—Symptoms, Diagnosis, and Treatment 580–589

Chapter XXVI.—Injuries of the Face and Adjacent Parts.

PAGE

Face—Cuts of Cheeks and Forehead—Lips—Parotid Duct—Salivary Fistula—Foreign Bodies in Nose.—Ears—Wounds—Foreign Bodies.—Orbit—Dangers of Injuries of.—Eye—Contusion—Contusion with Rupture—Wounds, Penetrating and Non-Penetrating—Indirect Injury of the Eye—Concussion—Wound or Irritation of Branches of Fifth Pair of Nerves.—Mouth.—Tongue.—Palate and Pharynx 589–595

Chapter XXVII.—Injuries of the Throat: and Asphyxia.

Injuries of the Larynx and Trachea—Dislocation and Fracture of Larynx—Wounds of Throat—Not extending into Air- or Food-passage—Implicating Air-passage—Effects—Treatment—Aërial Fistula—Foreign Bodies in Air-passage—Symptoms—Prognosis—Treatment—Scald of Mouth, Pharynx, and Glottis—Treatment 595–605

Asphyxia or Apnœa—Causes—From Drowning—Artificial Respiration—Inflation of Lungs with Oxygen Gas—Secondary Asphyxia—From Noxious Gases—From Hanging 605–611

Pharynx and Œsophagus—Wounds—Foreign Bodies—Symptoms—Treatment—Pharyngotomy and Œsophagotomy 611–613

Chapter XXVIII.—Injuries of the Chest.

Wounds of the Chest-Walls 613–614

Injuries of the Lung—Contusion—Rupture—Wound—Symptoms—Complications—Hæmorrhage—Hæmothorax—Emphysema and Pneumothorax—Pneumonia—Pleurisy and Empyema—Collapse of Lung—Prognosis—Treatment—Hernia of Lung, or Pneumocele 614–623

Wounds of the Heart and Large Vessels—Laceration of the Pericardium—Wounds of the Pericardium—Wounds of the Heart—Symptoms—Rupture of the Heart from External Violence—Wounds of the Aorta and Vena Cava 623–626

Chapter XXIX.—Injuries of the Abdomen and Pelvis.

Injuries of the Abdomen and Abdominal Viscera—Contusion of the Abdominal Walls—Buffer-Accidents—Rupture of Abdominal Viscera—Emphysema of Abdominal Wall—Wounds of Diaphragm—Wounds of Abdominal Wall—Non-penetrating—Penetrating—Without Wound or Protrusion of Viscera—With Wound or Protrusion—Wounds of Intestine—Treatment—Traumatic Peritonitis—Treatment 626–637

Injuries of the Pelvic Viscera—Rupture of Bladder—Foreign Bodies in Bladder—Rupture of Ureter—Wounds of Organs of Generation—Wound of Urethra—Laceration of Urethra—Foreign Bodies in Vagina or Rectum—Laceration of the Perinæum—Operation for Rupture of the Perinæum, involving the Recto-Vaginal Septum 637–644

DIVISION THIRD.

SURGICAL DISEASES.

CHAPTER XXX.—MORTIFICATION, OR GANGRENE.

PAGE

GANGRENE DEFINED—Local Signs—Constitutional Symptoms—Causes—Gangrene from Arrest of Supply of Arterial Blood—Ligature or Wound of Artery—Thrombosis—Embolism—Senile Gangrene—Gangrene from Obstruction of Circulation through or from a Part—Venous Obstruction—Strangulation—Inflammation—Arrest of Gangrene—Lines of Demarcation and Separation—Diagnosis—Prognosis—Treatment—Constitutional—Local—Of Senile Gangrene—Amputation in Gangrene 645–659

BED-SORES—Treatment 659–660

BOILS—Causes—Treatment 660–661

CARBUNCLE—Signs—Constitutional Disturbance—Causes—Diagnosis—Prognosis—Treatment 661–664

CHAPTER XXXI.—DISEASES ARISING FROM THE ABSORPTION OF SEPTIC MATTER, OR THE PRODUCTS OF INFECTIVE INFLAMMATION.

General Remarks on Septic Diseases 664–666

SLOUGHING PHAGEDÆNA—Local Signs—Constitutional Symptoms—Causes—Treatment 666–670

GANGRENOUS STOMATITIS OR CANCRUM ORIS—Signs—Treatment . 670–671

CHAPTER XXXII.—ERYSIPELAS.

ERYSIPELAS—Characters—Erysipelatous Fever—Causes—Intrinsic—Extrinsic—Exciting 671–676

EXTERNAL ERYSIPELAS—Cutaneous—Cellulo-Cutaneous—Cellular—Diagnosis—Prognosis—Treatment—Preventive—Curative—Of Cutaneous Erysipelas—Of Cellulo-Cutaneous Erysipelas—Of Cellular Erysipelas.—SPECIAL FORMS—In Newly born Infants—Orbit—Head—Phlegmonous Erysipelas of Lips, Face, and Neck—Diffuse Cellulitis of Submaxillary Region—Erysipelas of Scrotum—Pudenda—Whitlow 676–689

INTERNAL ERYSIPELAS—Erysipelas of Mucous Surfaces—Fauces—Erysipelatous Laryngitis—Of Serous Membranes—Erysipelatous Arachnitis—Peritonitis 689–691

CHAPTER XXXIII.—PYÆMIA.

PYÆMIA DEFINED—Causes—Phenomena—Symptoms—Formation of Purulent Deposits—Diagnosis—From Inflammatory and Typhoid Fevers—From Ague—From Rheumatism—Prognosis—Pathology—Leucocytosis—Thrombosis and Embolism—Formation and Changes of a Thrombus—Embolon—Ichorrhæmia or Septicæmia—Post-mortem Appearances—Blood—Heart—Lungs—Liver—Spleen—Kidneys—Intestines—Joints—General Character of Anatomical Lesions—Treatment—Preventive—Curative . . . 692–711

Chapter XXXIV.—Tumors.

PAGE

Definition—Classification—Non-Malignant, Benign, or Innocent Tumors—Malignant Tumors—Signs of Malignancy—Semi-Malignant Tumors—Classes of Tumors—General Character of Typical Tissues—Connective Tissue—Embryonic Tissue 711–718

Cystic Tumors—Classification—Encysted Tumors from simple Distension of a Duct or Cyst—From Obstruction of Ducts of Sebaceous Glands—Atheromatous Tumors—From Closure and Dilatation of Ducts of other Excretory Organs—From Distension of Cavities without Excretory Ducts—From New Formation of Closed Cysts—Dermoid Cysts—Serous or Simple Cysts—Proliferous Cysts—Sanguineous Cysts or Hæmaturia—Parasites . . 718–726

Tumors composed of one of the Modifications of Fully Developed Connective Tissue—Fatty Tumor, or Lipoma—Fibroma—Soft Fibromata—Wens—Elephantiasis Arabum—Fibro-cellular Tumors—Firm Fibromata—Fibromata of Bone—Of Nerves—Of Glands—Painful Subcutaneous Tubercle—Fibroid Tumor of Uterus—Enchondroma, Chondroma, or Cartilaginous Tumor—Osteoma, Exostosis, or Bony Tumor—Myxoma, or Mucous Tumor 727–738

Tumors which Resemble in Structure more or less perfectly one of the more Complex Tissues of the Body—Myoma, or Muscular Tumor—Neuroma, or Nervous Tumor—Angioma, or Vascular Tumor—Lymphangioma, composed of Lymphatic Vessels—Lymphadenoma, composed of Lymphatic Tissue—Papilloma resembling Papillæ of Skin or Mucous Membrane—Corns—Warts—Condylomata and Mucous Tubercles—Polypi—Villous Tumor of Bladder—Adenoma, or Glandular Tumor—Tubular Adenomata—Racemose or Acinous Adenomata 738–745

Tumors composed of Tissue which is either purely Embryonic or is undergoing one of the Primary Modifications seen in the Development of Adult Connective Tissue: Sarcomata—Definition—General Character—Varieties—Small Round-Celled Sarcoma—Glioma—Spindle-Celled Sarcoma—Oval-Celled Sarcoma—Myeloid or Giant-Celled Sarcoma—Ossifying and Osteoid Sarcomata—Alveolar and Large Round-Celled Sarcoma—Melanotic Sarcoma—Psammoma—Sarcomatous Blood-Cysts or Hæmatomata—Mixed Sarcomata 745–755

Tumors composed of Cells of an Epithelial Type arranged in Spaces in a Stroma consisting of more or less perfectly developed Fibrous Tissue—Cancer—Classification—Scirrhus and Encephaloid—Microscopic Structure—Origin and Growth—Progress—Scirrhus—Structure—Encephaloid—Structure—Other Varieties of Cancer—Colloid, Gelatinous, or Alveolar—Melanotic Cancer—Causes—Diagnosis of Forms of Cancer—Causes—Geographical Distinction—Constitutional or Local Origin—Secondary Deposits—Treatment—Constitutional Means Useless—Local Means—Palliative—Curative—Caustics—Acids—Alkalies—Chlorides—Arsenic—Sulphate of Zinc—Compression—Excision—Question of Operating—Cases not Admitting Operation—Doubtful Cases—Cases Proper for Operation 755–787

Epithelioma—Situation and Progress—Structure—Diagnosis—Prognosis—Treatment—Excision—Ligature—Ecraseur—Caustics—Recurrence—Adenoid Cancer or Columnar Epithelioma 787–794

Excision of Tumors 794–796

Chapter XXXV.—Scrofula and Tubercle.

PAGE

Scrofula—Definition—Scrofulous Diathesis—Scrofulous Temperament—Strumous Inflammation—Of Skin—Mucous Membranes—Bones and Joints—Glandular Organs—Tubercle—Structure—Progress.—Causes of Scrofula and Tubercle—Hereditary Nature—Inoculability of Tubercle—Malnutrition—Debility from Disease.—Treatment—Preventive—Curative—Local Treatment—Operations in Scrofulous and Tuberculous Cases 797–806

Chapter XXXVI.—Venereal Diseases.

Definition and Classification 806–807

Local Contagious Ulcer or Chancre—Characters—Specific Nature—Origin and Progress—Varieties—Simple or Soft—Phagedænic—Sloughing Chancre, or Gangrenous Phagedæna—Situation of Chancre—Diagnosis—Local Treatment of Chancre—Of Phagedænic Chancre—Of Sloughing Chancre—Constitutional Treatment of Simple Chancre—Of Phagedænic Chancre—Of Gangrenous or Sloughing Chancre.—Consecutive Symptoms of the Local Contagious Ulcer—Contracted Cicatrices—Bubo—Primary Bubo—Creeping Bubo—Treatment—Venereal Warts 807–818

Syphilis, or Constitutional Venereal Disease—Characters—Primary, Secondary, and Tertiary—Transmissibility—Progress—Indurated or Hunterian Chancre—Seat and Number—Induration—Indolent Enlargement of Lymphatic Glands—Treatment—Use of Mercury—Mode of Administering Mercury 818–828

Secondary Tertiary or Constitutional Manifestations of Syphilis—Phenomena—Circumstances nfluencing Progress—Treatment—Mercury.—Local Secondary Affecti ns—Syphilitic Affections of the Skin—Warts, Excrescences, and Vegetations—Syphilis of Mucous Membranes—Syphilitic Iritis—Syphilitic Periosti is in Nodes—Diseases of the Bones—Syphilitic Necrosis and Caries—Syphi itic Tumors of Muscles and Tendons—Syphilitic Disease of Testicle—Syphilitic Ovaritis—Visceral Syphilis—Syphilitic Disease of the Nervous System 828–846

Infantile Syphilis—Nature—Mode of Communication—Symptoms—Influence on Teeth—Chronic Interstitial Keratitis—Treatment . . 847–851

Chapter XXXVII.—Surgical Diseases of the Skin and its Appendages.

Diseases of the Appendages of the Skin—Warts—Corns—Perforating Ulcer of the Foot—Diseases of the Nails—Onychia—Simple—Specific—Ingrowing of the Nails—Hypertrophy of Toe-Nail 852–855

Tumors and Ulcers of the Skin—Cheloid and Fibro-Vascular Tumors—Lupus—Varieties—Lupus Non-exedens—Lupus Exedens—Microscopic Structure—Diagnosis—Treatment—Rodent Ulcer—Symptoms—Diagnosis—Pathology—Treatment—Cancer of the Skin—Melanotic Sarcoma—Scirrhous Wart—Infiltrated Cancer—Cancerous Ulcer—Treatment . . 855–865

Chapter XXXVIII.—Diseases of the Nervous System.

PAGE

Neuritis—Symptoms—Treatment 865

Neuralgia—Symptoms—Situations—Causes—Diagnosis—Treatment—Section of Nerves—Facial Neuralgia—Traumatic Neuralgia—Stretching of Nerves 865–871

Neuroma—Structure—Traumatic Neuroma—Treatment . . . 871–872

Traumatic Paralysis—From Compression or Injury of Brain—From Injury of Spinal Cord—From Pressure on Nerves—Diagnosis—Rheumatic Paralysis 872–875

Tetanus—Causes—Period of Occurrence—Forms—Symptoms—State of Nerves at Seat of Injury—Pathological Conditions in Spinal Cord—Treatment 875–883

Chapter XXXIX.—Diseases of the Lymphatics and their Glands.

Inflammation of the Lymphatics, Lymphatitis, or Angeioleucitis—Symptoms—Results—Diagnosis—Causes—Treatment . . . 883–885

Inflammation of Lymphatic Glands, or Adenitis—Varieties—Strumous Enlargement of Glands—Treatment 885–887

Other Diseases of Lymphatics and their Glands—Lymphadenoma or Simple Lymphoma—Structure—Causes—Diagnosis—Treatment—Elephantiasis of the Legs and Scrotum—Treatment—Ligature of Arteries—Varix of the Lymphatics—Lymphorrhœa—Treatment 887–892

Chapter XL.—Diseases of Veins.

Phlebitis—Idiopathic and Traumatic—Pathology—Embolic—Symptoms—Treatment—Diffuse Phlebitis—Symptoms—Treatment . . . 892–895

Varix—Definition—Appearance—Locality—Causes—Structure—Progress—Treatment—Obliteration of Varicose Veins 895–899

Chapter XLI.—Aneurism by Anastomosis; and Nævus.

Aneurism by Anastomosis—Nature—Diagnosis—Treatment . . 899–901

Nævus—Capillary—Venous or Cavernous—Structure—Treatment—Operations—Obliteration—Nitric Acid—Galvanic Cautery—Ligature.—Nævi in Special Situations—Scalp—Fontanelle—Face—Eyelids—Nose—Cheeks—Lips—Tongue—Penis—Vulva and Pudendum—Extremities, Neck, and Trunk—Nævoid Lipoma 901–912

Hæmorrhagic Diathesis—Causes—Treatment 912–914

INDEX TO THE FIRST VOLUME 915

LIST OF ILLUSTRATIONS IN VOL. I.

FIG.		PAGE
1	Clover's Chloroform Apparatus	43
2	Administration of Chloroform	44
3	Esmarch's Bloodless Method	54
4	Lister's " "	55
5	Compression of Femoral Artery with Thumb and Tourniquet	60
6	Circular Amputation of Arm	61
7	Sawing Bone	62
8	Flap Amputation of Thigh	63
9	Modified Circular Amputation of Leg	65
10	Teale's Amputation—Incisions	66
11	Stump	66
12	Femoral Artery of Thigh Stump opened	72
13	Nerve in Stump of Forearm	72
14	Necrosed Bone from Stump	72
15	Aneurismal Varix of Stump	73
16	Amputation of Ungual Phalanx	87
17	Middle Phalanx	87
18	Whole Finger	88
19	Index Finger	89
20	Result of Amputation of Middle Finger	89
21	Result of Amputation of Index Finger	89
22	Result of Amputation of Ring Finger	89
23	Amputation of Left Thumb	90
24	Right Thumb	91
25	Result of Amputation of Thumb	91
26	Hand left after Amputation of first two Fingers and Metacarpal Bones	92
27	Hand after Amputation of three Fingers and Metacarpal Bones	92
28	Amputation at Wrist—Dorsal Flap	93
29	Amputation at Wrist—Palmar Flap	93
30	Flap Amputation of Forearm	94
31	Skin-flap Amputation of Forearm	95
32	Amputation of Arm—Clearing Bone	95
33	Flap Amputation at Shoulder-joint	96
34	making Inner Flap	97
35	holding Vessels	98
36	Result of Amputation at Shoulder	99
37	Amputation at Shoulder—Spence's Method	99
38	Amputation of Toe	101
39	Flap Amputation of Great Toe	101
40	Oval Amputation of Great Toe	102
41	Flap Amputation of Little Toe	102
42	Hey's Amputation, Line of	104
43	Chopart's Amputation, Line of	104
44	Sole Flap	104
45	Articulations Opened	105
46	Lines of Incision in Operations on Foot	105
47	Syme's Amputation—First Stage	106
48	Second Stage	106
49	Lines of Incisions	107
50	Sawing off Malleoli	108
51	Pirogoff's Amputation—Lines of Incision	109
52	Pirogoff's Amputation, Sawing Os Calcis	109
53	after removal of Malleoli	110
54	Stump	110
55	Flap Amputation of Leg	112
56	Sawing Bones	113
57	Teale's Amputation of Leg	113
58	Amputation of Leg by Skin-Flaps	114
59A	through Condyles by long Posterior Flap	116
59B	Amputation through Knee	116
60	by Lateral Flaps	117
61	Circular Amputation through Condyles	119
62	Amputation of Lower Third of Thigh by Lateral Flaps	121
63	Antero-Posterior	121
64	Flaps cut from without	122
65	Lister's Aorta Compressor applied (B. Hill)	124
66	Amputation at Hip—Anterior Flap, Left Limb	124
67	Anterior Flap, Right Limb	125
68	Compression of Vessels	127
69	Irrigation of Limb	147
70	Introduction of Seton	159
71	Healthy Pus-cells	161
72	Pus-cells from Pyæmic Abscess	161
73	Scrofulous Abscess	161
74	Large Psoas Abscess	168
75	Suction-Trochar	169
76	Abscess-Bistoury	171
77	Seton passed through Abscess	173
78	Forked Probe	173
79	Drainage Tube, Introduction of	173
80	Serrefine	209
81	Splinter Forceps	283

FIG.		PAGE
82	Arrow penetrating Skull (Army Med. Depart. U.S.A.)	233
83	Arrow penetrating Buffalo Rib (Army Med. Depart. U.S.A.)	234
84	Arrow-Snares	234
85	Gunshot-fracture of Femur (U.S. Army Museum)	237
86	Aperture of Entry of Bullet	237
87	Aperture of Exit	238
88	Gunshot wound—temporary Tourniquet	242
89	Nélaton's Probe	244
90	Screw-probe	244
91	Bullet Extractor	244
92	" "	244
93	Bullet-Forceps	244
64	Splinter-Forceps	244
95	Bullet in head of Humerus	251
96	Gunshot-fracture of Humerus (Army Med. Depart. U.S A.)	252
97	Excision of portion of Humerus (Army Med. Depart. U S.A.)	252
98	Cicatrix of Burn at Elbow	272
99	of Thumb	272
100	producing Dislocation of Finger	272
101	great deformity of Hand	273
102	" " "	273
103	" " of Foot	273
104	from Burn with Sulphuric Acid	273
105	of Lip and Neck	273
106	after Operation	275
107	Teale's Operation for Restoration of Lip, 1st stage	275
108	2d stage	275
109	Aveling's Method of Transfusion	282
110	Mode of Opening Vein (Aveling)	283
111	Torsion of Artery	293
112	Application of Ligature	300
113	Liston's Bull-dog Forceps	300
114	Ligature Knot	300
115	Opening Sheath of Artery	301
116	Opening in Sheath	302
117	Passing Needle and Ligature	302
118	Femoral Artery fifty-six hours after Amputation	306
119	Brachial Artery Ten Days after Amputation	307
120	Femoral Artery Six Weeks after Amputation	307
121	Femoral Artery Fourteen Days after Amputation—partial Absorption of Clot	307
122	Femoral Artery Ten Days after Amputation—Death from Pyæmia	307
123	Acupressure—1st Method, Raw Surface	309
124	1st Method, Cutaneous Surface	309
125	2d Method	309
126	3rd Method	309
127	4th Method	310
128	Collateral Anastomosis after Ligature	313
129	Direct Anastomosis	313
130	Change in Trunk with Anastomosing Vessel	313
131	Circumscribed Traumatic Aneurism of Ball of Thumb	325
132	Varicose Aneurism at Bend of Arm—Unopened	327
133	Dissected Out	328
134	Opened in Situ	328
135	Dissected Out and Opened	329
136	Atrophy of Capsular Muscles of Shoulder from Strain	350
137	Oblique and Longitudinal Fractures	360
138	Comminuted Fracture of Humerus without Displacement	364
139	Section of Tibia Four Weeks after Fracture	365
140	Starched Bandage applied to Fractured Thigh	372
141	Seutin's Pliers	372
142	Application of Seutin's Pliers	372
143	Trap in Starched Bandage	373
144	Plaster Splint	375
145	Gangrene from Tight Bandaging	377
146	Butcher's Clamp for Rebreaking Badly set Bone	391
147	Apparatus for Ununited Fracture	396
148	Archimedean Drill	397
149	Gutta Percha Splint for Fractured Jaw	401
150	Moulded to Jaw	401
151	Applied	402
152	Thomas's First Method of Applying Wire Sutures in Fractured Jaw	402
153	Key for ditto	402
154	Thomas's Second Method	402
155	Form of Wire-coil	402
156	Sound Clavicle	407
157	Fracture of Acromial End of Clavicle	407
158	Apparatus for Fractured Clavicle	409
159	Apparatus for Fracture of Neck of Humerus	413
160	T-Fracture of Epiphysis of Humerus	416
161	Angular Arm-Splint	416
162	Wrist-drop after Fracture of Humerus	416
163	Permanent Flexure of Fingers after Fracture of Humerus	417
164	Apparatus for ditto	417
165	for Fracture of Olecranon	418
166	Position of Hand in Colles' Fracture	420
167	Back View	420
168	Colles' Fracture of Radius	421
169	Lower End of Bone	421
170	Pistol-shaped Splint	423
171	Modified	424
172	Gordon's Splint	424

FIG.		PAGE
173	Nélaton's Apparatus	424
174	Intracapsular Fracture of Neck of Femur—Attitude of Limb	429
175	Extracapsular Fracture (Simple) of Neck of Femur	432
176	Impacted	433
177	Impacted	433
178	Impacted	433
179	Callus	433
180	Nélaton's and Bryant's Lines	434
181	Liston's Long Thigh-Splint	437
182	Browne's Elastic Catch	438
183	Bracketed Thigh-Splint	438
184	Extension by Weights	438
185	Smith's Sling Splint	439
186	Hamilton's Double Thigh-Splint	439
187	Impacted Fracture of Thigh	441
188 189	Comminuted Fracture of Condyles	441
190	Diagram of Fracture of Patella	441
191	Fractured Patella, Limb Straight	441
192	Limb Bent	442
193	Arterial Supply of Patella	442
194	Manning's Patella Splint	445
195	Applied	445
196	McIntyre's Splint Modified	447
197	Salter's Swing Box	448
198	Pott's Fracture	450
199	Comminuted Fracture above and into Ankle	451
200	Rack and Pinion Leg-Splints	452
201	Application of Rack and Pinion Splint	452
201*	Dupuytren's Splint Applied	453
202	Pott's Fracture Badly Set	454
203	Comminuted Fracture of Astragalus	455
204	Clove-hitch Knot	461
205	Dislocation of Sternal End of Clavicle	472
206	Dislocation of Acromial End of Clavicle	474
207	Dislocation of Head of Humerus, Subcoracoid	475
208	Subclavicular	475
209	Subspinous	475
210	Subglenoid	475
211	Subcoracoid Dislocation	476
212	Subglenoid	477
213	Reduction of Dislocated Shoulder by Foot in Axilla	479
214	Dislocation of Radius Forwards, Arm Bent	485
215	Arm Extended	485
216	Position of Bones in ditto	486
217	Reduction of Dislocated Ulna	487
218	Dislocation of Hand and Carpus forwards	489
219	Dislocation of Metacarpus forwards	491
220	Dislocation of Thumb	491
221	Reduction of Dislocated Thumb	492
222	Dislocation of Phalanges	493
223	Dislocation of Femur on Ilium	494
224	into Sciatic Notch	494
225	Dislocation into Foramen Ovale	494
226	on Pubes	494
227	Dislocation below Tendon	498
228	Reduction of Dorsal Dislocation by Rotation	499
229	Reduction of Ilio-Sciatic Dislocation by Extension	500
230	Dislocation Downwards and Outwards	501
231	Thyroid Dislocation	501
232	Manipulation in Thyroid Dislocation	501
233	Reduction of Obturator Dislocation by Extension	502
234	Dislocation of Femur Downwards	503
235	Downwards and Inwards	503
236	Pubic Dislocation	503
237	Bones in	503
238	Reduction of Pubic Dislocation by Extension	504
239	Subspinous Dislocation of Femur	504
240	Compound Dislocation of Astragalus	514
241	Fracture of Base of Skull	535
242	Condyles Detached	535
243	Splintering of Outer Table from Gunshot	541
244	Natural Size	544
245	Depression of Outer Table	542
246	Splintering of Inner Table	542
247	Application of Elevator	544
248	Hey's Saw	545
249	Cranial Saw applied	545
250	Trephined Circle round Punctured Fracture	546
251	Hernia Cerebri	552
252	Application of Trephine	558
253	Trephine-cut at Edge of Fracture	558
254	Apparatus for Fracture of Spine	584
255	Dislocation of Fifth Cervical Vertebra	586
256	Dislocation of Axis	586
257	Ear-Scoop	590
258	Split-Sheet applied	608
259	Silvester's Method—Inspiration	609
260	Expiration	609
261	Suture applied to Wounded Gut	635
262	Operation for Ruptured Perinæum	643
263	Embolon in Femoral Artery	648
264	Arteries of Lower Limb in Senile Gangrene	649
265	Senile Gangrene of Foot	650
266	Line of Separation	652
267	Spontaneous Amputation in Embolic Gangrene of Lower Extremities	659
268	Temperature Table in Pyemia	695
269	" "	696
270	Wall of Atheromatous Cyst	718
271	Contents of Atheromatous Cyst	719
272	Horn on Nose	720
273	Ulcerated Atheroma of Scalp	720
274	Atheromatous Cyst simulating Lipoma	721
275	Wall of Dermoid Cyst from Arm	723

FIG.		PAGE
276	Fatty Tumor	728
277	Large Fibro-cellular Tumor	730
278	Firm Fibroma: Naso-pharyngeal Polypus	731
279	Forehead	731
280	Enchondroma from Femur	733
281	Finger	733
282	Large Enchondroma of Index	735
283	Multiple Enchondromata of Hand	735
284	Structure of Exostosis	736
285	Myxoma	737
286	Mucous Polypus of Nose	737
287	Nævus	739
288	Lymphadenoma	739
289	Papilloma of Soft Palate	742
290	Adenoma of Mamma, Slow Growth	744
291	Rapid Growth	744
292	Round-celled Sarcoma	746
293	Spindle-celled Sarcoma	746
294	Oval-celled Sarcoma	749
295	Myeloid Sarcoma from Lower Jaw	750
296	Constituents of a Myeloid Tumor	750
297	Myeloid Tumor of Radius	750
298	Myeloid Tumor of Metacarpus	751
299	Alveolar Sarcoma	751
300	Melanotic Sarcoma from Skin	753
301	Melanotic Sarcoma from Heart	753
302	Melanosis of Eyeball	753
303	Hæmorrhagic Sarcoma	754
304	Cells from Encephaloid and Scirrhus of Breast	756
305	Scirrhus of Breast	761
306	Cicatrising	762
307	Encephaloid of Breast, large-celled	763
308	Colloid of Omentum	764
309	Colloid of Breast	764
310	Epithelioma of Lower Lip	788
311	Anus	789
312	Epithelial Globes from do.	790
313	Chassaignac's Original Ecraseur	792
314	Ecraseur applied	792
315	Columnar Epithelioma	794
316	Scrofulous Ulcer of Leg	799
317	Arm and Finger	799
318	Development of Tubercle (Virchow)	801
319	Syphilitic Temporary Teeth	850
320	Two Central Syphilitic Incisors deeply Notched (Hutchinson)	850
321	One Central Incisor Notched (Hutchinson)	850
322	Syphilitic Onychia	854
323	Hypertrophy and Deformity of Toe-nail	855
324	Cells from Lupus Non-exedens of Neck	857
325	Rodent Ulcer on Back of Hand, Amputation	859
326	Rodent Ulcer, Perforation of Skull and Exposure of Dura Mater	860
327	Vertical Section of Rodent Ulcer	861
328	Cancerous Ulcer of Leg	864
329	Section of Brachial Plexus: Chronic Neuritis	870
330	Neuroma with Nerve Filaments spread on Tumor	871
331	West Indian Elephantiasis	889
332	Application of Pins to Varicose Veins	898
333	Syringe for Injecting Nævus	903
334	Diagram of the Application of Nævus-needles	905
335	Diagram of Nævus tied	905
336	Diagram of Ligature of Flat and Elongated Nævus	906
337	Diagram of Flat and Elongated Nævus tied	906
338	Nævus of Lower Lip, Front View	909
339	Side View	909
340	Large Nævus of Upper Lip, Front View	910
341	Large Nævus of Upper Lip, Side View	910
342	Nævus of Tongue	910

THE

SCIENCE AND ART

OF

SURGERY.

BEING

A TREATISE ON SURGICAL INJURIES, DISEASES, AND OPERATIONS.

BY

JOHN ERIC ERICHSEN, F.R.S., F.R.C.S.,

SURGEON EXTRAORDINARY TO HER MAJESTY THE QUEEN; MEMBER OF COUNCIL AND OF THE COURT OF EXAMINERS OF THE ROYAL COLLEGE OF SURGEONS; EMERITUS PROFESSOR OF SURGERY AND OF CLINICAL SURGERY IN UNIVERSITY COLLEGE; CONSULTING SURGEON TO UNIVERSITY COLLEGE HOSPITAL, AND TO VARIOUS MEDICAL CHARITIES.

REVISED BY THE AUTHOR,

FROM THE SEVENTH AND ENLARGED ENGLISH EDITION.

Illustrated with Eight Hundred and Sixty-two Engravings on Wood.

VOL. II.

PHILADELPHIA:
HENRY C. LEA.
1878.

STANDARD WORKS ON SURGERY.

A SYSTEM OF SURGERY; PATHOLOGICAL, DIAGNOSTIC, THERAPEUTIC, AND OPERATIVE. By SAMUEL D. GROSS, M.D., D.C.L. OXON., Professor of Surgery in the Jefferson Medical College of Philadelphia. Illustrated with over 1400 Engravings on Wood. Fifth Edition, thoroughly Revised, and greatly Enlarged and Improved. In two very large and handsome imperial octavo volumes, containing nearly 2300 closely printed pages, in small type, strongly bound in leather, with raised bands, $15. (*Lately Issued*)

We congratulate the author of this great work upon the high literary position it has attained, as well as upon the fact that it has not been surpassed for leading to a correct appreciation of the principles of surgery, and as a work of reference for the actively employed practitioner. It is a pleasure to scan its pages for other than didactic reasons, almost every page containing evidence of the absence of that narrow minded selfishness so conspicuous in the works of some of our English contemporaries.—*Dublin Journ. of Med. Science*, Jan. 1874.

It combines, as perfectly as possible, the qualities of a text-book and work of reference. We think this last edition of Gross's "Surgery" will confirm his title of "*Primus inter Pares*" It is learned, scholar-like, methodical, precise, and exhaustive We scarcely think any living man could write so complete and faultless a treatise, or comprehend more solid, instructive matter in the given number of pages The labor must have been immense, and the work gives evidence of great powers of mind, and the highest order of intellectual discipline and methodical disposition and arrangement of acquired knowledge and personal experience.—*N. Y. Med. Journ*, Feb. 1873.

THE PRINCIPLES AND PRACTICE OF SURGERY. By JOHN ASHHURST, Jr., M.D., Surgeon to the Episcopal Hospital, Surgeon to the Children's Hospital, Philadelphia. In one large and very handsome octavo volume of over 1000 closely printed pages, with 533 illustrations: cloth, $6 50; leather, raised bands, $7 50. (*Lately Published.*)

Its author has evidently tested the writings and experiences of the past and present in the crucible of a careful, analytic, and honorable mind, and faithfully endeavored to bring his work up to the level of the highest standard of practical surgery. He is frank and definite, and gives us opinions, and generally sound ones, instead of a mere *résumé* of the opinions of others. He is conservative, but not hide-bound by authority. His style is clear, elegant, and scholarly The work is an admirable text book, and a useful book of reference. It is a credit to American professional literature, and one of the first ripe fruits of the soil fertilized by the blood of our late unhappy war.—*N. Y. Med Record*, Feb. 1, 1872.

We highly recommend it, both for the use of those beginning their studies, and of those engaged in practice who desire a work, readily consulted, that will tell them plainly, and in a few words, what is best to be done.—*Phila. Med. Times*, Feb. 1, 1872.

SURGERY, ITS PRINCIPLES AND PRACTICE. By TIMOTHY HOLMES, Surgeon to St. George's Hospital, London. In one large and handsome volume of nearly 1000 pages, with 411 illustrations on wood: cloth, $6; leather, $7. (*Just Issued.*)

The most recent addition to our text-books, and, as may be supposed, is a volume which is of the greatest value to the student. It is clearly written, well illustrated, and may be regarded as a faithful mirror of the principles and practice of modern surgery. Mr. Holmes's experience as an examiner and teacher has enabled him to tell the student in his book just what he wants him to know —*Lond. Med. Examiner*, Sept. 6, 1877.

It will be found a most excellent epitome of surgery by the general practitioner who has not the time to give attention to more minute and extended works, and to the medical student. In fact, we know of no one we can more cordially recommend. The author has succeeded well in giving a plain and practical account of each surgical injury and disease, and of the treatment which is most commonly advisable It will no doubt become a popular work in the profession, and especially as a text-book —*Cincinnati Med. News*, April, 1876.

THE PRINCIPLES AND PRACTICE OF MODERN SURGERY. By ROBERT DRUITT, M.R.C.S., &c. A New and Revised American, from the Eighth Enlarged and Improved London Edition. Illustrated with 432 Wood Engravings. In one very handsome octavo volume of nearly 700 large and closely printed pages: cloth, $4; leather, $5.

In Mr. Druitt's book, though containing only some seven hundred pages, both the principles and the practice of surgery are treated, and so clearly and perspicuously as to elucidate every important topic We have examined the book most thoroughly, and can say that this success is well merited. His book, moreover, possesses the inestimable advantages of having the subjects perfectly well arranged and classified, and of being written in a style at once clear and succinct.—*Am. Journ. of Med. Sciences.*

THE PRACTICE OF SURGERY. With over Five Hundred Engravings on Wood, mostly Original. By THOMAS BRYANT, F.R.C.S., Surgeon to Guy's Hospital, London. In one large and very handsome octavo volume of 984 pages: cloth, $6 25; leather, raised bands, $7 25. (*Lately Issued.*)

ON BANDAGING, AND OTHER OPERATIONS OF MINOR SURGERY. By F. W. SARGENT, M.D. New Edition, with an additional chapter on Military Surgery. By W. F. ATLEE, M.D. In one royal 12mo. volume of 383 pages, with 187 illustrations: cloth, $1 75.

We can unhesitatingly recommend this volume as one of the very best of its class, and as furnishing a vast amount of information which is essential for the young surgeon to know, in order to perform his daily duties with advantage to his patient, and satisfaction and credit to himself.—*Am. Journ. of Med. Sciences.*

TITLE AND CONTENTS

OF

HAMILTON ON NERVOUS DISEASES,

THEIR DESCRIPTION AND TREATMENT.

NOW READY

IN ONE VERY HANDSOME OCTAVO VOLUME OF OVER 500 PAGES. WITH ILLUSTRATIONS.

PRICE IN CLOTH, $3.50.

HENRY C. LEA—Philadelphia.

The object of the author has been to furnish to the student and practitioner in a clear and concise form a guide to the diagnosis and treatment of affections of the nervous system, embodying the very great advantages made during the last few years in our knowledge of these diseases. Unusual opportunities in public and private practice have qualified him for this work, and his desire has been to render it strictly practical, adapting it to the wants not only of the specialist, but of the general practitioner. Particular care has therefore been devoted to the management of nervous diseases, and in an appendix will be found a careful selection of well-tried formulæ.

A MANUAL OF OPERATIVE SURGERY. By LEWIS A. STIMSON, A.M., M.D., Surgeon to the Presbyterian Hospital, N. Y., etc. In one very handsome royal 12mo. volume of about 500 pages, with 332 illustrations, cloth, $2 50. (*Just Ready.*)

THE NATIONAL DISPENSATORY:—Embracing the Chemistry, Botany, Materia Medica, Pharmacy, Pharmacodynamics, and Therapeutics of the Pharmacopœias of the United States and Great Britain. For the use of Physicians and Pharmaceutists. By ALFRED STILLÉ, M.D., Professor of Theory and Practice of Medicine in the Univ. of Penna, and JOHN M. MAISCH, Ph.D., Prof. of Mat. Med. and Bot. in the Philadelphia College of Pharmacy, Sec. to the American Pharmaceutical Assoc. In one handsome 8vo. vol. of about 1250 pages, with several hundred illustrations (*In Press.*)

A SYSTEM OF HUMAN ANATOMY: INCLUDING ITS MEDICAL AND SURGICAL RELATIONS. For the Use of Practitioners and Students of Medicine. By HARRISON ALLEN, M.D, Professor of Comparative Anatomy in the Univ. of Pa. With an Introductory Chapter on Histology. By E. O. SHAKESPEARE, M.D., Ophthalmologist to the Phila. Hospital. In one large quarto vol., with several hundred original illustrations on lithographic plates, and numerous wood-cuts in the text. (*Preparing.*)

CLINICAL LECTURES ON SURGERY. Delivered at the Hospital of La Charité. By L. GOSSELIN, Professor of Clinical Surgery in the Faculty of Medicine, Paris. Translated from the French by LEWIS A. STIMSON, M.D., Surg. to the Presby. Hospital, New York. In one neat 8vo. vol. of about 390 pp., cloth, $2 50. (*Just Ready.*)

LECTURES ON THE DISEASES OF THE NERVOUS SYSTEM. Delivered at La Salpêtrière, by J. M. CHARCOT, Professor to the Faculty of Medicine of Paris; Physician to La Salpêtrière, etc. Translated from the second edition, by GEORGE SIGERSON, M.D., M.Ch. With illustrations. (*Publishing in the Medical News and Library.*)

THE ANTAGONISM OF THERAPEUTIC AGENTS, AND WHAT IT TEACHES. By J. MILNER FOTHERGILL, M.D., Author of "The Practitioner's Handbook of Treatment," etc. In one neat royal 12mo. volume of about 200 pages. (*Preparing.*)

CORNIL & RANVIER'S MANUAL OF PATHOLOGICAL HISTOLOGY, Translated, with Notes and Additions, by E. O. SHAKESPEARE, M.D. In one handsome 8vo. vol. of about 600 pages, with over 300 illustrations. (*Preparing.*)

A MANUAL OF THE DISEASES PECULIAR TO WOMEN. By JAMES R. CHADWICK, A.M., M.D. In one neat royal 12mo. volume, with illustrations. (*Preparing.*)

BRYANT'S PRACTICE OF SURGERY. New and revised edition. With over 500 wood-engravings. In one large and handsome 8vo. vol. of about 1000 pages. (*Preparing.*)

PLAYFAIR'S TREATISE ON THE SCIENCE AND PRACTICE OF MIDWIFERY. Second edition. Edited with additions, by ROBERT P. HARRIS, M.D. In one handsome 8vo. volume, with numerous illustrations. (*Preparing.*)

WELLS ON DISEASES OF THE EYE. New and revised edition, with 6 colored plates, many wood-cuts, and Jaeger and Snellen's test-types. In one large and very handsome 8vo. volume. (*Preparing.*)

BARNES'S CLINICAL EXPOSITION OF THE MEDICAL AND SURGICAL DISEASES OF WOMEN. New and revised edition. In one handsome 8vo. volume, with many illustrations. (*In Press.*)

SUPERSTITION AND FORCE; Essays on the Wager of Law, the Wager of Battle, the Ordeal, and Torture. By HENRY C. LEA. Third revised and enlarged edition. In one handsome royal 12mo. vol. of over 500 pages. (*Shortly.*)

HENRY C. LEA—Philadelphia.

NERVOUS DISEASES:

THEIR

DESCRIPTION AND TREATMENT.

BY

ALLAN McLANE HAMILTON, M.D.,

FELLOW OF THE NEW YORK ACADEMY OF MEDICINE;
ONE OF THE ATTENDING PHYSICIANS AT THE EPILEPTIC AND PARALYTIC HOSPITAL,
BLACKWELL'S ISLAND, NEW YORK CITY;
AND AT THE OUT-PATIENT DEPARTMENT OF THE NEW YORK HOSPITAL;
MEMBER OF THE AMERICAN NEUROLOGICAL ASSOCIATION,
ETC. ETC. ETC.

WITH FIFTY-THREE ILLUSTRATIONS.

PHILADELPHIA:
HENRY C. LEA.
1878.

Entered according to Act of Congress, in the year 1878, by

HENRY C. LEA,

in the Office of the Librarian of Congress. All rights reserved.

PHILADELPHIA:
COLLINS, PRINTER,
705 Jayne Street.

TO MY FRIENDS

FORDYCE BARKER, M.D.,

AND

JOHN T. METCALFE, M.D.

PREFACE.

It has been my object to produce a concise, practical book; and should the satisfaction be ever accorded me of knowing that I have made the subjects of Diagnosis and Treatment of Nervous Diseases more simple to my readers than I think they now are, I will be amply rewarded for the task I have undertaken.

I have not considered Insanity, because I believe that this subject deserves much more extended notice than it could possibly receive in a book of this size and kind.

I have deemed it advisable to include a short article upon Cerebro-Spinal Meningitis, though, by many authorities, it is not regarded, strictly speaking, as a nervous disease. I think, if for no other reason, its interesting diagnostic relations entitle it to consideration.

In conclusion, I wish to thank Drs. Loring, Janeway, Mason, Shakespeare, my resident physicians, Drs. Meyer, Naylor, Ryan, and Baldwin, and Mr. F. O. C. Darley, for valuable assistance in the preparation of this volume.

ALLAN McLANE HAMILTON.

2 East 33d St., New York,
May 1st, 1878.

CONTENTS.

INTRODUCTION.

PAGE

I. HINTS IN REGARD TO METHODS OF EXAMINATION AND STUDY—Examination of the patient, symptomatology, etc.—Autopsical and microscopical examinations 17–21

II. INSTRUMENTS USED FOR THE DIAGNOSIS AND TREATMENT OF NERVOUS DISEASES—The Thermometer, Æsthesiometer, Baræsthesiometer, Dynamometer, Ophthalmoscope—APPARATUS FOR THE TREATMENT OF NERVOUS DISEASE—Electrical, rubber muscles, cauteries, etc. . . . 22–34

CHAPTER I.

DISEASES OF THE CEREBRAL MENINGES.

Cerebral Pachymeningitis—Acute, chronic—Chronic pachymeningitis with hæmatoma—*Acute Cerebral Meningitis*—*Rheumatic Meningitis*—*Meningitis of the Aged*—*Acute Granular* (Tubercular) *Meningitis*—Acute granular meningitis of the convexity—*Chronic Cerebral Meningitis* . 35–68

CHAPTER II.

DISEASES OF THE CEREBRUM AND CEREBELLUM.

Cerebral Hyperæmia—*Cerebral Hemorrhage*—*Cerebellar Hemorrhage* 69–112

CHAPTER III.

DISEASES OF THE CEREBRUM AND CEREBELLUM (CONTINUED).

Cerebral Anæmia (acute, chronic, infantile)—*Stomachic Vertigo*—*Auditory Vertigo* 113–128

CHAPTER IV.

DISEASES OF THE CEREBRUM AND CEREBELLUM (CONTINUED).

OCCLUSION OF INTRA-CRANIAL VESSELS—THROMBOSIS—EMBOLISM—Thrombosis of the Cerebral Arteries—Thrombosis of Sinuses and Veins—Embolism of the Cerebral Vessels 129–147

CHAPTER V.

DISEASES OF THE CEREBRUM AND CEREBELLUM (CONTINUED).

PAGE

Cerebral Softening—Acute, chronic—*Asemasia* (aphasia)—*Cerebral Sclerosis*—Diffused Cerebral Sclerosis 148–184

CHAPTER VI.

DISEASES OF THE CEREBRUM AND CEREBELLUM (CONCLUDED).

Brain Tumors 184–203

CHAPTER VII.

DISEASES OF THE SPINAL MENINGES.

Spinal Meningitis (acute pachymeningitis)—Acute and Chronic Spinal Meningitis—Spinal pachymeningitis—*Spinal Tumors*—*Spinal Hemorrhage* (Meningeal, Central) 204–222

CHAPTER VIII.

DISEASES OF THE SPINAL CORD.

Spinal Hyperæmia (Spinal Congestion, Subacute Spinal Hyperæmia)—*Spinal irritation* 223–232

CHAPTER IX.

DISEASES OF THE SPINAL CORD (CONTINUED).

Inflammation of the Spinal Cord—Myelitis—Acute, chronic—*Antero-Spinal Paralysis of Infancy—Of Adults* 233–254

CHAPTER X.

DISEASES OF THE SPINAL CORD (CONTINUED).

Progressive Muscular Atrophy—Partial Facial Atrophy—Pseudo-Hypertrophic Muscular Paralysis 255–275

CHAPTER XI.

DISEASES OF THE SPINAL CORD (CONCLUDED).

Posterior Spinal Sclerosis (Locomotor Ataxia)—*Antero-Lateral Amyotrophic Sclerosis—Lateral Sclerosis of the Spinal Cord—Tetanus* . 276–307

CHAPTER XII.

BULBAR DISEASES.

Epilepsy—(The grave attack, the light attack, irregular attacks)—*Bulbar Paralysis* 308–342

CHAPTER XIII.

CEREBRO-SPINAL DISEASES.

PAGE

Cerebro-Spinal Meningitis—Cerebro-Spinal Sclerosis—Alcoholism—Acute —Chronic—*Hydrophobia—Hysteria—Hystero-Epilepsy—Catalepsy* 343–392

CHAPTER XIV.

CEREBRO-SPINAL DISEASES (CONCLUDED).

Chorea—Paralysis Agitans—Exophthalmic Goitre 393–418

CHAPTER XV.

DISEASES OF THE PERIPHERAL NERVES.

Neuralgia, facial, cervico-occipital, cervico-brachial, intercostal, or pleurodynia—Sciatic—Crural, visceral, ovarian, urethral, renal, etc. . 419–443

CHAPTER XVI.

DISEASES OF THE PERIPHERAL NERVES (CONTINUED).

Neuritis—Anæsthesia—Tumors of Nerves 444–452

CHAPTER XVII.

DISEASES OF THE PERIPHERAL NERVES (CONTINUED).

Local Paralysis—Facial paralysis—Traumatic paralysis—Diphtheritic paralysis 453–469

CHAPTER XVIII.

DISEASES OF THE PERIPHERAL NERVES (CONCLUDED).

Lead Poisoning—Functional Spasm—Tetany—Functional spasm with voluntary movements—Reflex spasm—Facial spasm without pain—Torticollis—*Professional Cramp*—Writer's Cramp—Dancer's Cramp—Telegrapher's Cramp, etc. etc. 470–489

Formulæ 490–505

LIST OF ILLUSTRATIONS

OF HAMILTON ON NERVOUS DISEASES.

FIG.		PAGE
1.	Dr. Seguin's surface thermometer	22
2.	Sieveking's æsthesiometer	23
3.	Diagram for making records	52
4.	Beard and Rockwell's piesmeter	26
5.	Mathieu's dynamometer	26
6.	The author's dynamometer	27
7.	Loring's ophthalmoscope	28
8.	The author's gas cautery	33
9.	Osteoma of dura mater (Lancereaux)	39
10.	Tuberculous matter about a vessel (Cornil and Ranvier)	60
11.	Distended perivascular spaces with atrophy (Fothergill)	78
12.	The topography of lesions	97
13.	Miliary aneurisms	98
14.	Multiple lesions with tongue atrophy	102
15.	Instrument for applying heat and cold	111
16.	Tissue changes in softening	158
17.	Handwriting of an agraphic patient (Bourneville)	166
18.	Handwriting of agraphia and cerebro-spinal sclerosis	166
19.	Location of island of Reil (Bateman)	168
20.	External indication of island of Reil (after Turner)	179
21.	Choked disk (after Leibreich)	188
22.	Tubercular deposit	191
23.	Sarcoma	191
24.	Gumma	191
25.	Psammoma	191
26.	Encephaloid	192
27.	Glioma	192
28.	Cerebellar aneurism (Bristowe)	197
29.	Deformity of hand in cervical pachymeningitis (Charcot)	206
30.	The consequences of spinal section	214
31.	Changes in muscular tissue in antero-spinal paralysis of infancy (Duchenne)	245
32.	Changes in muscular tissue in antero-spinal paralysis of infancy (Duchenne)	245
33.	Changes in muscular tissue in antero-spinal paralysis of infancy (Duchenne)	245

FIG.		PAGE
34.	Changes in muscular tissue in antero-spinal paralysis of infancy (Duchenne)	245
35.	Antero-spinal paralysis of adults (Seguin)	248
36.	"Main en griffe" (Roberts)	256
37.	Atrophy of left shoulder	258
38.	Partial facial atrophy	267
39.	The spinal curve in pseudo-hypertrophic paralysis	272
40.	Appearance of muscular tissue in pseudo-hypertrophic paralysis (Charcot)	274
41.	Appearance of trophic bone-changes in locomotor ataxia (Charcot)	283
42.	The course of posterior nerve-roots (Clarke)	285
43.	Pathological changes in locomotor ataxia and antero-lateral sclerosis (after Charcot)	292
44.	Lateral sclerosed patches (Charcot)	294
45.	Region of endemic tetanus on Long Island	301
46.	The pathology of hysteria	382
47.	Hystero-epilepsy	386
48.	Dr. Yeo's case of exophthalmic goitre (Yeo)	413
49.	Chart for the application of electricity (after Henle)	440
50.	Trophic change of the skin	445
51.	Sarcomatous neuroma (Foucault)	452
52.	Wire hook for the treatment of facial paralysis	458
53.	Reflex spasm from genital irritation	481

ERICHSEN'S SURGERY—New Edition—Now Ready.

THE SCIENCE AND ART OF SURGERY.

Being a Treatise on Surgical Injuries, Diseases, and Operations. By JOHN ERIC ERICHSEN, Professor of Surgery in University College, London, etc. Carefully Revised by the Author, from the Seventh and Enlarged English Edition. Illustrated with eight hundred and sixty-two engravings on wood. In two large and beautiful octavo volumes of nearly two thousand pages. Cloth, $8.50; leather, $10.50.

In revising this standard work, the author has spared no pains to render it worthy of a continuance of the very marked favor which it has so long enjoyed, by bringing it thoroughly on a level with the advance in the science and art of surgery made since the appearance of the last edition. To accomplish this has required the addition of about two hundred pages of text, while the illustrations have undergone a marked improvement. A hundred and fifty additional wood-cuts have been inserted, while about fifty other new ones have been substituted for figures which were not deemed satisfactory. In its enlarged and improved form, it is therefore presented with the confident anticipation that it will maintain its position in the front rank of text-books for the student, and of works of reference for the practitioner, while its exceedingly moderate price places it within the reach of all.

The seventh edition is before the world as the last word of surgical science. There may be monographs which excel it upon certain points, but as a conspectus upon surgical principles and practice it is unrivalled. It will well reward practitioners to read it, for it has been a peculiar province of Mr. Erichsen, to demonstrate the absolute interdependence of medical and surgical science. We need scarcely add, in conclusion, that we heartily commend the work to students that they may be grounded in a sound faith, and to practitioners as an invaluable guide at the bedside.—*Am. Practitioner*, April, 1878.

It is no idle compliment to say that this is the best edition Mr. Erichsen has ever produced of his well-known book. Besides inheriting the virtues of its predecessors, it possesses excellences quite its own. Having stated that Mr. Erichsen has incorporated into this edition every recent improvement in the science and art of surgery, it would be supererogation to give a detailed criticism. In short, we unhesitatingly aver that we know of no other single work where the student and practitioner can gain at once so clear an insight into the principles of surgery, and so complete a knowledge of the exigencies of surgical practice.—*London Lancet*, Feb. 14, 1878.

For the past twenty years Erichsen's Surgery has maintained its place as the leading text-book, not only in this country, but in Great Britain. That it is able to hold its ground, is abundantly proven by the thoroughness with which the present edition has been revised, and by the large amount of valuable material that has been added. Aside from this, one hundred and fifty new illustrations have been inserted, including quite a number of microscopical appearances of pathological processes. So marked is this change for the better, that the work almost appears as an entirely new one.—*Med. Record*, Feb. 23, 1878.

Erichsen has stood so prominently forward for years as a writer on Surgery, that his reputation is world-wide, and his name is as familiar to the medical student as to the accomplished and experienced surgeon. The work is not a reprint of former editions, but has in many places been entirely rewritten. Recent improvements in surgery have not escaped his notice, various new operations have been thoroughly analyzed, and their merits conscientiously discussed. One hundred and fifty new wood-cuts add to the value of this work.—*N. O. Med. and Surg. Journ.*, March, 1878.

Notwithstanding the increase in size, we observe that much old matter has been omitted. The entire work has been thoroughly written up, and not merely amended by a few extra chapters. A great improvement has been made in the illustrations. One hundred and fifty new ones have been added, and many of the old ones have been redrawn. The author highly appreciates the favor with which his work has been received by American surgeons, and has endeavored to render his latest edition more than ever worthy of their approval. That he has succeeded admirably, must, we think, be the general opinion. We heartily commend the book to both student and practitioner.—*N. Y. Med. Journal*, Feb. 1878.

LANDMARKS, MEDICAL AND SURGICAL.

By LUTHER HOLDEN, F.R.C.S., Surgeon to St. Bartholomew's and the Foundling Hospitals. From the Second London Edition. In 1 handsome volume, royal 12mo., of 128 pages; cloth, 88 cents. (*Now Ready.*)

The title of this book is very suggestive of its practical value, while the perusal of the work itself verifies the most extravagant expectations. The object of the author has been to collect in compact form the landmarks, or surface-marks of the different parts of the body, and indicate their relation to the deeper seated parts. The value of this sort of knowledge to the physician, but especially to the surgeon, who, with an anatomical eye, can make the tissues transparent before him, is incalculable. The mapping out of the human body is one which is most instructive to the practical man, and he is enabled, after considerable experience, to have landmarks of his own; but in the little work before us this knowledge is systematized in such an intelligible manner as to place it within the reach of all. It is one of the most interesting little works we have seen for a long time.—*N. Y. Med. Record*, May 11, 1878.

Exceedingly useful and acceptable. The purpose of the author is to teach by surface marks, such as lines, or depressions, or eminences, what lies beneath. The greatest familiarity with the anatomy of the dissecting-room does not necessarily make it easy to recognize given points in the living subject by surface indications.—*N. Y. Med. Journ.*, March, 1878.

Of all the recent new works published we have no hesitancy in declaring this by far the most valuable to every practitioner. The author has here given a series of landmarks that will enable one to locate with certainty, by means of external appearances, nearly every important part practically considered in the body. We would advise every practitioner to procure a copy, and keep it always by him.—*Nashville Journ. of Med. and Surg.*, Feb. 1878.

The object of the author has certainly been satisfactorily attained. The qualifications for writing such a book are rarely seen combined in one person. Mr. Holden is at once a good anatomist and a good clinical observer.—*Phila. Med. Times*, March 2, 1878.

HENRY C. LEA—Philadelphia.

FARQUHARSON'S THERAPEUTICS—Now Ready.

A GUIDE TO THERAPEUTICS. By Robert Farquharson, M.D., Lecturer on Materia Medica at St. Mary's Hospital Medical School. Edited, with Additions, embracing the U. S. Pharmacopœia, by Frank Woodbury, M.D. In one handsome 12mo. volume of nearly 400 pages; cloth, $2.00.

Many persons who learned therapeutics before the physiological action of remedies was taught to students find it difficult to discover the bearing of physiological action on therapeutic employment from ordinary text-books. Dr. Farquharson has most ingeniously shown it by printing the two in parallel columns and corresponding paragraphs, so that, by running the eye down the left-hand side of a page we get the physiological actions of a drug, and on the right-hand the therapeutical uses, while, by running it straight across the page, we at once perceive the relations of the one to the other. On this account, the work is likely to be useful, not only to students preparing for their examinations, but to those medical men, also, who are well acquainted with larger books on the same subject, but experience the difficulty already mentioned, of seeing the relations between the actions and use of remedies.—*The Lond. Practitioner*, Jan. 1878.

The American editor has performed his labor of adapting the work to the requirements of our countrymen, in a most thorough and conscientious manner. In conclusion, we would commend the book to all who would have a short and concise manual of the present state of our knowledge of the physiological and therapeutical action of remedies. We observe with pleasure that American authors receive full credit for their labors.—*St. Louis Clin. Record*, Jan. 1878.

We do not know of an equal number of pages in one work that contains for the needs of the student anything near as valuable an account of these substances. We can cordially commend this work to the medical student as the best introduction to the study of larger and more elaborated treatises.—*Detroit Lancet*, Jan. 1878.

FOTHERGILL'S PRACTITIONER'S HANDBOOK—Just Issued.

THE PRACTITIONER'S HANDBOOK OF TREATMENT: or, the Principles of Therapeutics. By J. Milner Fothergill, M.D. Edin., M. R. C. P. Lond., Assistant Physician to the West London Hospital, Assistant Physician to the City of London Hospital for Diseases of the Chest, Victoria Park. In one very neat octavo volume of 576 pages: cloth, $4.

We heartily commend this book to the medical student as an honest and intelligent guide through the mazes of therapeutics, and assure the practitioner who has grown gray in the harness that he will derive pleasure and instruction from its perusal. The imperfections and errors which we have noticed are few and unimportant. On the other hand, the excellences are many and patent. Valuable suggestions and material for thought abound throughout.—*Bost. Med. and Surg. Journ.* March 8, 1877.

We could quote much that would interest our readers; but we desist, referring all to the volume itself as at once practical and scientific; as a treatise for the practitioner simply bent on learning the latest discoveries in therapeutics, and for the inquirer in search of the philosophy of medical practice.—*American Practitioner*, Sept. 1877.

None can read it without being impressed with the immense amount of common sense which is possessed by the author, as well as natural tact in interpreting the indications of treatment. His style is clear and agreeable, and he has the faculty of expounding the fundamental principles of medicine in such a way as to give them a practical application to treatment. It is, in fact, one of the most interesting, entertaining, and instructive works of its kind that we have ever read.—*N. Y. Med. Record*, March 17, 1877.

BURNETT ON THE EAR—Now Ready.

THE EAR; ITS ANATOMY, PHYSIOLOGY, AND DISEASES. A Practical Treatise for the Use of Medical Students and Practitioners. By Charles H. Burnett, M.A., M.D., Aural Surgeon to the Presbyterian Hospital, Surgeon in Charge of the Infirmary for Diseases of the Ear, Philadelphia. In one handsome octavo vol. of 615 pages, with eighty-seven illustrations; cloth, $4 50; leather, $5 50.

This is an excellent treatise, and is worthy of a place among the favorite and reliable works in every student's and practitioner's library. It presents the present aspect of Otology in a clear and comprehensive manner, is free from useless verbiage and tedious theory. In addition to the original observations of the author, made from an extensive clinical experience, he has freely availed himself of the labors of others, and given us, in proper form, the germ of truth which his extensive knowledge of the literature of the subject and vast research has enabled him to glean. We heartily commend the work as a valuable text-book for the student, and a reliable aid to the practitioner.—*Toledo Med. and Surg. Journ.*, April, 1878.

The profession has undoubtedly been awaiting a text-book on Otology, in English, commensurate with the subject, and we think we can justly premise what we may have to say in particular, by the general remark that Dr. Burnett's book will be found to meet the demand by its embracing, in a well written style, the latest views on Otology, and that it will place the purchaser *au niveau* with all the important advances in this interesting field. The anatomico-physiological part of the work we regard as quite a model of what we might term the fulness of condensation.—*Cincinnati Clinic*, Feb 16, 1878.

The appearance of this book is another proof of the rapidly increasing amount of honest, valuable work that is now being done in the various branches of medical science in this country. Dr. Burnett is to be commended for having written the best book on the subject in the English language, and especially for the care and attention he has given to the scientific side of the subject.—*N. Y. Med. Journ.*, Dec. 1877.

There is probably no other book of the kind in the English language which contains so concise and yet so complete an account of the numerous diseases to which the ear is liable. We can safely predict that every intelligent medical man who takes the trouble to make himself familiar with the leading facts concerning this class of disease, as given by Dr Burnett, will not only admit that the time thus employed was far from being wasted, but that the earnest labors of Otologists within the last few years have taken away the sting of reproach contained in the hackneyed phrase that "nothing can be got out of the ear but fees and wax."—*Canada Med. and Surg. Journal*, Nov. 1877.

HENRY C. LEA—Philadelphia.

TITLE AND CONTENTS

OF

STIMSON'S

MANUAL OF OPERATIVE SURGERY.

In one very handsome royal 12mo. volume of nearly 500 pages, with 332 illustrations.
Cloth, price $2.50.

NOW READY.

HENRY C. LEA, Philadelphia.

FOWNES' CHEMISTRY—New Edition—Now Ready.

A MANUAL OF CHEMISTRY; THEORETICAL AND PRACTICAL. By GEORGE FOWNES, Ph.D. Revised and corrected by HENRY WATTS, B.A., F.R.S., author of "A Dictionary of Chemistry," etc. With a colored plate and one hundred and seventy-seven illustrations on wood. A new American, from the twelfth and enlarged English edition. Edited by ROBERT BRIDGES, M.D. In one large royal 12mo. volume of over 1000 pages.

Two careful revisions by Mr. Watts, since the appearance of the last American edition of "Fownes," have so enlarged the work, that in England it has been divided into two volumes. In reprinting it, by the use of a small and exceedingly clear type, cast for the purpose, it has been found possible to comprise the whole, without omission, in one volume, not unhandy for study and reference. The enlargement of the work has induced the American editor to confine his additions to the narrowest compass, and he has inserted only such discoveries as have been announced since the recent appearance of the work in England, and has added the standards in popular use to the Decimal and Centigrade systems employed in the original.

Among the additions to this edition will be found a very handsome colored plate, representing the spectra in the spectroscope. Every care has been taken in the typographical execution to render the volume worthy in every respect of its high reputation and extended use; and though it has been enlarged by more than one hundred and fifty pages, its very moderate price will still maintain it as one of the cheapest volumes accessible to the chemical student.

The twelfth edition of Fownes' well-known Manual of Chemistry will be welcomed by many a teacher and student of that science. The work has always enjoyed a merited popularity amongst medical students, and a copy of one or the other of its many editions is pretty sure to be found in every medical man's library. The present edition has been prepared by Mr. Watts, the editor of the well-known "Dictionary of Chemistry," which bears his name. We may, therefore, feel confident that the work is as free from errors as it is possible any such work can be.—*Dub. Journ. Med. Sci.*, Nov. 1877.

The value of Fownes' Manual as a text-book for the use of advanced medical students is now so well established and so universally recognized, as to be almost beyond criticism.—*Lond. Med. Examiner*, Nov. 29, 1877.

May be with justice described as one of the best written and most accurate works of the kind in this or in any other language.—*Dublin Med. Journ.*

Mr. Watts has done his duty with his usual skill . . . Well sustains the high character the book has so long enjoyed.—*London Lancet*, Nov. 24, 1877.

Mr. Watts has evidently done all in his power to render the book worthy of the high reputation it has always enjoyed as a student's text-book.—*Popular Science Review.*

In Mr. Watts' hands "Fownes" will continue to retain its character as a model of what a scientific treatise should be.—*Chemist and Druggist.*

Edited by the editor of the "Dictionary of Chemistry," no one could have been selected more fitted for the task, and he has performed his work well.—*Edinburgh Med. Journ.*

HENRY C. LEA—Philadelphia.

A MANUAL

OF

OPERATIVE SURGERY.

BY

LEWIS A. STIMSON, B.A. (YALE), M.D.,

SURGEON TO THE PRESBYTERIAN HOSPITAL,
PROFESSOR OF PATHOLOGICAL ANATOMY IN THE MEDICAL FACULTY OF THE UNIVERSITY OF THE CITY OF NEW YORK.

WITH THREE HUNDRED AND THIRTY-TWO ILLUSTRATIONS.

PHILADELPHIA:
HENRY C. LEA.
1878.

Entered according to Act of Congress, in the year 1878, by

HENRY C. LEA,

in the Office of the Librarian of Congress. All rights reserved.

COLLINS, PRINTER.

TO

PROFESSOR WILLIAM H. VAN BUREN,

IN RECOGNITION OF HIS EMINENT MASTERY

OF THE ART AS WELL AS OF THE SCIENCE OF SURGERY,

AND TO

DR. EDWARD L. KEYES,

IN AFFECTIONATE REMEMBRANCE OF A PERSONAL FRIENDSHIP

UNINTERRUPTED FOR TWENTY YEARS,

AND OF AN

INTIMATE ASSOCIATION IN MUCH PROFESSIONAL WORK,

This Volume

IS INSCRIBED BY

THE AUTHOR.

NEW BOOKS AND NEW EDITIONS—In Press.

THE NATIONAL DISPENSATORY: Embracing the Chemistry, Botany, Materia Medica, Pharmacy, Pharmacodynamics, and Therapeutics of the Pharmacopœias of the United States and Great Britain. For the use of Physicians and Pharmaceutists. By ALFRED STILLÉ, M.D., and JOHN M. MAISCH, Ph.D. In one handsome octavo volume of about 1250 pages, with numerous illustrations.

SUPERSTITION AND FORCE: Essays on the Wager of Law, the Wager of Battle, the Ordeal and Torture. By HENRY C. LEA. Third revised and enlarged edition. In one handsome volume, royal 12mo., of about 550 pages.

A TREATISE ON THE SCIENCE AND PRACTICE OF MIDWIFERY. By W. S. PLAYFAIR, M.D., F.R.C.P. Second American, from the Second and revised English Edition. Edited, with additions, by ROBERT P. HARRIS, M.D. In one handsome octavo volume, with numerous illus.

A SYSTEM OF HUMAN ANATOMY: INCLUDING ITS MEDICAL AND SURGICAL RELATIONS. For the Use of Practitioners and Students of Medicine. By HARRISON ALLEN, M.D With an Introductory Chapter on Histology. By E. O. SHAKESPEARE, M.D. In one large and handsome quarto volume, with several hundred original illustrations on lithographic plates, and numerous wood-cuts in the text.

THE PRACTICE OF SURGERY. By THOMAS BRYANT, F.R.C.S. Second American Edition. With over Five Hundred engravings on wood. In one large and very handsome octavo volume of about 1000 pages.

A CLINICAL EXPOSITION OF THE MEDICAL AND SURGICAL DISEASES OF WOMEN. By ROBERT BARNES, M.D., F.R.C.P. Second American, from the second enlarged and revised English edition. In one handsome octavo volume, with many illustrations.

A MANUAL OF THE DISEASES PECULIAR TO WOMEN. By JAMES R. CHADWICK, A.M., M.D. In one neat volume, royal 12mo., with illustrations.

A TREATISE ON DISEASES OF THE EYE. By J. SOELBERG WELLS. Third American Edition; illustrated with numerous engravings on wood, and six colored plates. Together with selections from the test-types of Jaeger and Snellen. In one large and very handsome octavo volume.

LECTURES ON THE DISEASES OF THE NERVOUS SYSTEM, delivered at La Salpetrière. By J. M. CHARCOT, Professor to the Faculty of Medicine of Paris. Translated from the Second Edition by GEORGE SIGERSON, M.D, M.Ch. With illustrations. (*Publishing in the Medical News and Library.*)

THE ANTAGONISM OF THERAPEUTIC AGENTS, AND WHAT IT TEACHES. Being the Fothergillian Prize Essay for 1878. By J. MILNER FOTHERGILL, M.D. In one neat volume, royal 12mo., of about 200 pages.

HENRY C. LEA—Philadelphia.

PREFACE

OF STIMSON'S OPERATIVE SURGERY.

In preparing this Manual, I have sought to render it sufficiently complete, as regards both the number of operations described and the details of the descriptions, to meet the wants of the practitioner and of the student; but, on the one hand, I have excluded operations, such as the removal of tumors, which can be described only in general terms, and on the other I have tried to avoid that minuteness of detail in non-essentials, which Mr. Syme condemned so vigorously in the teaching of the present day, as "the fiddle-faddle instructions, not only for using, but even for holding, the knife, which sufficiently denote the poverty of intellect whence they proceed, and the lowness in aspiration to which they are addressed." Whenever a knowledge of details, however, has seemed essential to the correct understanding and performance of an operation, I have not hesitated to describe them very fully, and the same principle has governed the introduction of descriptions of the anatomical relations of the parts.

It goes without saying that in the preparation of a work of this character very large drafts must be made upon the results of the labor of others, and that the efforts of the writer must be limited, except on rare occasions, to making judicious selections and judicial comparisons. The list of methods and processes is now so large that the surgeon is more likely to advance the science and art of his profession by elaborating the materials and mastering the results already acquired, than by inventing new practices or re-inventing old ones. It is not desirable, even if it were possible, to include in a manual every operation, and still less every modification, that has been sug-

gested, and it has been my aim, therefore, either to select for description in each case that method or process which seemed the best, and then to simply indicate the variations which came well recommended, or which might be required under exceptional circumstances, or else to describe fully methods which differed radically from each other, and then to indicate their respective merits and disadvantages. It is only proper to add that in making such selections and comparisons, I have not relied solely upon my own judgment and experience, but have fortified them by reference to the practice and opinions of acknowledged leaders in the profession.

Whenever it was practicable I have gone to original sources; and, while not making the question of priority in the invention of any method a prominent one, or spending much time in solving it, I have placed the credit where it seemed to belong, and have given references to the authority, so that any error can be readily corrected.

The works most freely consulted have been those by Sédillot, Velpeau, Guérin, Bell, Dubrueil, and Chauvel on Operative Surgery; Ollier and Von Langenbeck upon Excisions; Buck and Verneuil upon Plastic Surgery; Wells on the Eye; Roosa on the Ear; Van Buren and Keyes on the Urinary Passages; Peaslee on Ovariotomy; Thomas on Diseases of Women; Tillaux and Richet on Topographical Anatomy, and the Bulletins de la Société de Chirurgie.

Many of the illustrations are modifications of those in Dubrueil, Chauvel, and Tillaux; others have been taken from Holmes's and Erichsen's Surgeries, Wells, Thomas, Wood on Rupture, and Wales on Bandaging; and a few representing instruments have been furnished by Tiemann and Reynders.

I have to thank Dr. Vandervoort, the accomplished librarian of the New York Hospital, for many facilities afforded me by him, and Dr. Keyes, Dr. Roosa, and the late Dr. Peaslee, for their kind revision of portions of the manuscript.

LEWIS A. STIMSON.

72 Madison Avenue, N. Y., June 7, 1878.

CONTENTS

OF STIMSON'S OPERATIVE SURGERY.

PART I.

THE ACCESSORIES OF AN OPERATION.

	PAGE
Anæsthesia,	25
Local,	25
General,	26
Administration of the anæsthetic,	27
Arrest of hemorrhage,	28
Ligature,	28
Torsion,	29
Acupressure,	30
Forcipressure,	31
Cautery,	31
Coagulating applications,	31
Cold,	31
Posture,	31
Artificial ischæmia,	31
Treatment of surgical wounds,	33
Lister's antiseptic method,	34
Treatment of surgical wounds—	
Guérin's cotton batting dressing,	36
Open treatment,	37
Sutures,	37
Interrupted,	37
Continuous,	38
Twisted,	38
Quilled,	40
Serre-fine,	40
Bandages,	40
Continuous or spiral,	41
Figure-of-eight or spica,	41
T-bandage,	43
Capelline or scalp,	43
Triangular bonnet,	45
Immovable,	45
Sayre's plaster jacket,	46

PART II.

LIGATURE OF ARTERIES.

General directions,	50
Anatomy of the supra-clavicular region,	53
Ligature of the innominate artery,	54
Anatomy,	54
Operation,	54
Ligature of the subclavian artery,	56
1st portion, left subclavian,	56
1st portion, right subclavian,	57
2d portion,	58
3d portion,	58
Ligature of the subclavian artery—3d portion,	
Anatomy,	58
Operation,	58
Ligature of the inferior thyroid,	59
Anatomy,	59
Operation,	59
Ligature of the vertebral artery,	60
Anatomy,	60
Operation,	60

	PAGE
Ligature of the axillary artery,	60
Anatomy,	60
Ligature under the clavicle,	61
Ligature in the axilla,	61
Anatomy,	61
Operation,	62
Ligature of the brachial artery,	62
Anatomy,	62
Operation,	64
Ligature of the radial artery,	64
Anatomy,	64
Operation, upper third,	65
Operation, lower third,	65
Ligature of the ulnar artery,	65
Anatomy,	65
Operation at the junction of the upper and middle thirds,	66
Operation in the lower third,	66
Ligature of the common carotid,	67
In its 1st portion,	67
At the place of election,	67
Ligature of the external carotid,	68
Anatomy,	68
Operation,	70
Ligature of the internal carotid,	71
Ligature of the lingual artery,	71
Anatomy,	71
Operation,	71
Ligature of the facial artery,	72
Ligature of the occipital artery,	73
Ligature of the temporal artery,	73
Ligature of the abdominal aorta,	74
Ligature of the common iliac,	74
Anatomy of the common, internal, and external iliac arteries,	74
Operation,	75
Ligature of the internal iliac,	77
Ligature of the external iliac,	77
Ligature of the gluteal, sciatic, and internal pudic arteries,	78
Ligature of the femoral artery,	79
Anatomy,	79
Operation.	80
At the apex of Scarpa's triangle,	80
In the middle of the thigh,	81
In Hunter's canal,	81
Ligature of the popliteal artery,	82
Ligature of the anterior tibial,	82
Anatomy,	82
Operation,	83
Ligature of the dorsalis pedis,	84
Ligature of the posterior tibial,	84
Guthrie's method,	85
Lateral method,	85
In the lower third and behind the ankle,	86

PART III.

AMPUTATIONS.

Circular method,	87
1st time,	87
2d time,	87
(*b*) Alanson's method,	87
(*c*) Cutaneous sleeve,	88
3d time,	88
Oval method,	89
Flap method,	89
Modified flap,	90
Teale's method,	90
Long anterior flap,	91
Amputation of the fingers,	91
Phalanges,	91

PAGE

Amputation of the fingers—
Through the metacarpo-phalangeal articulation, 92
Amputation of the metacarpal bones, 93
Amputation at the wrist, 94
Circular method, 94
Antero-posterior flaps, 95
External lateral flap, 95
Amputation of the forearm, 95
Amputation at the elbow-joint, 97
Anterior flap, 97
(*a*) The joint opened from behind, 97
(*b*) The joint opened from in front, 98
Lateral flap, 98
Circular, 99
Amputation of the arm, 99
Amputation at the shoulder-joint, 99
General considerations, 99
Oval method (Baron Larrey), 101
Double flap method (Lisfranc), 102
Spence's method, 103
Amputation of the toes, 104
Distal phalanx of the great toe, 105
Disarticulation of the great toe, 105
Two adjoining toes, 106
Amputation of a metatarsal bone, 106
Disarticulation of the 1st or 5th metatarsal, 107
Disarticulation of all the metatarsal bones (Lisfranc's amputation), 107
Modifications, 108
Medio-tarsal amputation (Chopart), 108
Sub-astragaloid amputation, 110
Amputation at the ankle-joint (Syme), 111
Modifications, 114
A. Internal lateral flap, (Roux), 114
B. Pirogoff's amputation, 115

PAGE

Comparison of the different methods of partial and total amputation of the foot, 118
Amputation of the leg, 118
A. Lower third, 118
1. Circular method, 119
2. Modified circular, 119
3. Long anterior flap (Bell), 119
4. Elliptic posterior flap (Guyon), 120
B. Middle third, 121
1. Long anterior curved flap, 121
2. Long anterior rectangular flap (Teale), 121
3. Long posterior rectangular flap (Lee), 122
4. Single posterior flap, 122
C. Upper third, 123
1. Circular, 123
2. Rectangular, anterior, and posterior flaps, 123
3. External flaps (Sédillot), 123
4. Modified flap (Bell), 124
Comparison of the different methods, 124
Amputation at the knee, 125
A. Disarticulation, 125
Oval method, 125
Long anterior flap, 126
B. Amputation through the condyles, 127
Anterior flap (Carden), 127
Gritti's modification, 128
Amputation of the thigh, 129
Teale, 130
Carden, 130
Modified flap, in lower third (Syme), 130
Long anterior flap, 130
Amputation at the hip-joint, 131
Anterior oval method (Verneuil), 133
Circular, 135
Anterior flap, 135
Modified oval, 136

PART IV.

EXCISION OF JOINTS AND BONES.

	PAGE
General considerations,	137
Major articulations,	140
Excision of the shoulder-joint,	140
General considerations,	140
Ollier's method,	141
Von Langenbeck's method,	142
By a transverse incision,	143
Excision of the head of the scapula,	143
Excision of the elbow-joint,	143
General considerations,	143
Central longitudinal incisions (v. Langenbeck),	145
Ollier's method,	146
Nélaton's method,	147
Long radial incision (Hueter),	147
Partial excision,	148
Excision of anchylosed elbow,	148
Ollier's method,	149
P. Heron Watson's method,	149
Excision of the wrist,	150
Bilateral incisions (Lister),	152
Radial incision (Ollier)	155
Dorso-radial incision (Von Langenbeck),	156
Excision of the hip-joint,	157
Sayre's method,	158
Ollier's method,	159
Anchylosis of the hip-joint treated by subcutaneous division of the neck of the femur (Adams),	160
Establishment of a false joint (Sayre),	161
Excision of the knee-joint,	162
Semilunar incision,	162
Ollier's subperiosteal method,	163
Excision of the ankle-joint,	163
Excision of the ankle-joint—	
Operation for total excision,	165
Excision of the bones and smaller articulations,	166
Excision of the superior maxilla,	166
General conditions,	166
Operation by one of the median incisions,	168
Subperiosteal excision (Ollier),	170
Simultaneous excision of both superior maxillæ,	171
Partial and temporary excisions of the superior maxilla to facilitate the removal of naso-pharyngeal polyps,	171
Resection of posterior portion of hard palate (Nélaton),	171
Resection of the upper portion (Von Langenbeck),	172
Other methods of gaining access to the pharynx through the nose,	173
Boeckel,	173
Ollier,	173
Excision of the inferior maxilla,	174
General considerations,	174
Resection of the anterior portion of the body,	177
Resection of the lateral portion of the body,	177
Resection of the ramus and half the body,	177
Excision of the entire bone,	178
Subperiosteal method,	179
Anchylosis of the jaw,	179
Resection of the sternum,	180
Resection of the ribs,	180

	PAGE
Excision of the clavicle,	180
Excision of the scapula,	182
Subperiosteal method (Ollier),	183
Partial excisions of the scapula,	184
Resection of the humerus,	184
Upper portion,	185
Middle portion,	185
Lower portion,	185
Total excision,	185
Excision of the ulna,	185
Excision of the radius,	186
Partial excisions of the ulna and radius,	186
Excision of the metacarpal bones and phalanges,	186
Resection of a phalanx,	187
Resection of the bones of the pelvis,	187
Excision of the coccyx,	187
Resection of the shaft of the femur,	188
Resection of the shaft of the tibia,	188
Resection of the fibula,	190
Of its upper extremity,	190
Of the lower portion,	191
Excision of the entire fibula,	191
Excision of the bones of the foot,	191
Calcaneum,	191
A. Holmes's method,	192
B. Subperiosteal method (Ollier),	192
Astragalus,	193
Ollier's method,	193
When dislocated,	194
When shattered,	194
Metatarsal bones and phalanges,	194
Trephining,	194
Of the cranium,	194
General considerations,	194
Operation,	196
Of the frontal sinus,	198
Of the antrum,	198

PART V.

NEUROTOMY AND TENOTOMY.

Division and resection of nerves,	199
Supra-orbital nerve,	199
Subcutaneous division,	200
Excision of a portion,	200
A. Above the eyebrow,	200
B. Below the eyebrow,	200
Superior maxillary nerve,	201
A. Division of the nerve on the face,	201
1. Subcutaneously,	201
2. Through the mouth,	201
3. By external incision,	202
B. Resection of the infra-orbital portion,	202
Tillaux's method,	202
Malgaigne's method,	202
Inferior dental nerve,	203
A. At the mental foramen,	203
Inferior dental nerve—	
B. Within the canal,	203
C. Before its entry into the canal,	203
Buccal nerves,	204
Lingual nerve,	204
Moore's method,	205
Tenotomy,	205
General considerations,	205
Tendo Achillis,	206
Tibialis posticus,	206
A. Above the malleolus,	206
B. On the side of the foot,	206
Tibialis anticus,	207
Peronei,	207
Flexor tendons at the knee,	207
Sterno-cleido-mastoid,	207
Levator palpebræ,	207

PART VI.

PLASTIC OPERATIONS ON THE FACE.

	PAGE
The different methods and their history,	208
General principles,	209
Cheiloplasty,	210
A. Lower lip,	210
1. V-incision,	210
2. Oval horizontal incision,	211
3. Method of Celsus or Serres,	211
4. Dieffenbach,	212
5. Syme-Buchanan,	212
6. Buck's method,	213
7. Square lateral flaps, Malgaigne,	215
8. Square vertical flaps,	215
B. Angle of the mouth (stomatoplasty),	216
Buck,	216
C. Upper lip,	217
1. Vertical flaps,	217
2. Infero-lateral flap,	218
Harelip,	219
Single harelip, simple,	219
1. Double flaps,	219
2. Nélaton's method,	220
3. Single flap,	220
4. Giraldes's method,	221
Double harelip, simple,	221
Complicated harelip,	222
Rhinoplasty,	223
1. Superficial defect, not involving the bones or septum,	224
Lateral, oblique, and vertical flaps,	224
Denonvillier's method,	225
Von Langenbeck's method,	225
Michon's method,	225
Restoration of columna,	226
2. Loss of the septum and nasal bones, the skin remaining entire,	226
Dieffenbach's case,	226
Rhinoplasty—	PAGE
Ollier's osteoplastic method,	228
Double layer, or superposed flaps,	229
Pancoast's subcutaneous method,	230
3. Loss of more or less of the surface and the septum,	230
A. Indian method,	230
Modifications,	232
B. Ollier's osteoplastic method,	233
C. Alquié's method,	235
D. Italian method,	235
Operations upon the eyelids,	236
Blepharoraphy,	236
Canthoplasty,	237
Blepharoplasty,	237
1. In ectropion,	237
Wharton Jones,	237
Alphonse Guérin,	238
Von Graefe,	239
Dieffenbach, Adams, and Ammon,	239
Richet,	239
Knapp,	240
Burow,	241
Dieffenbach,	241
Indian method,	242
Richet,	243
Hasner d'Artha,	243
Denonvilliers,	244
Ectropion due to excess of conjunctiva,	244
2. Entropion,	244
Canthoplasty,	244
Ligature,	244
Excision or cauterization of a fold of the skin,	245
Spasmodic entropion, Von Graefe,	246

PAGE

Operations upon the eyelids—
Excision of a portion of the orbicularis, 246
Division of tarsal cartilage, 246
Vertical division, 246
Longitudinal division (Ammon), 246
Excision of part of tarsal cartilage, 247
3. Symblepharon, 247
Operations upon the eyelids—
Ligature, 247
Arlt's method, 248
Teale's method, 248
Ledentu's method, 249
4. Pterygion, 249
Excision, 249
Ligature, 250
5. Trichiasis, 250
Von Graefe, 250
Anagnostakis, 250

PART VII.

SPECIAL OPERATIONS.

CHAPTER I.

OPERATIONS UPON THE EYE AND ITS APPENDAGES.

The cornea, 251
Removal of a foreign body, 251
Puncture of the cornea, 252
Removal of a staphyloma, 252
a. Critchett's method, 252
b. Carter's method, 254
The iris, 254
Iridotomy, 254
Simple incision (Cheselden, Bowman), 255
Simple iridotomy, Wecker, 255
Double iridotomy, Wecker, 256
Iridectomy, 256
Antiphlogistic iridectomy, 257
Optical, 259
Iridorhexis, 260
Iridesis, 260
Corelysis, 261
Operations undertaken for the relief of cataract, 262
Depression or couching, 263
Scleroticonyxis, 263
Keratonyxis, 264
Division, Discission, or Solution, 264
Division through the cornea, 265
Division through the sclerotic (Hays), 266
Operations undertaken for the relief of cataract—
Extraction, 266
Flap extraction, 266
Von Graefe's method, 270
Linear extraction, 273
Scoop extraction, 273
Removal by suction, 274
Removal of the lens in its capsule, 276
Pagenstecher's method, 276
Secondary cataract, 276
Operations for the relief of strabismus, 277
Anatomy, 277
Internal rectus, 278
Subconjunctival method, 279
Secondary strabismus, 280
Enucleation of the eyeball, 281
Extirpation of the contents of the orbit, 281
Operations upon the lachrymal apparatus, 281
Extirpation of the lachrymal gland, 281
Lachrymal sac, duct, and canaliculi, 282
Slitting up the canaliculus, 283
Puncture of the sac, 284
Stricture of the nasal duct, 285

CHAPTER II.

OPERATIONS UPON THE EAR AND ITS APPENDAGES.

	PAGE		PAGE
Occlusion of the external auditory canal,	285	Incision of periosteum, and trephining of mastoid process,	287
Introduction of speculum,	286	Catheterization of the Eustachian tube,	287
Paracentesis of the drum-head,	286		

CHAPTER III.

OPERATIONS UPON THE MOUTH AND PHARYNX.

Excision of the tonsils,	288	Excision of the tongue—	
Staphyloraphy,	289	Sédillot's method,	303
Uranoplasty,	296	By the écraseur,	303
Fergusson's osteoplastic method,	298	Division of the frenum,	306
Lannelongue's method,	299	Ranula,	306
Staphyloplasty,	299	Salivary fistula,	306
Excision of the tongue,	301	Deguise's method,	307
		Van Buren's method,	307

CHAPTER IV.

OPERATIONS PERFORMED UPON THE NECK.

Bronchotomy,	308	Bronchotomy—	
Subhyoid laryngotomy,	308	Tracheotomy,	311
Thyroid laryngotomy,	309	By galvano- or thermo-cautery,	313
Crico-thyroid laryngotomy,	309	Œsophagotomy,	314
Laryngo-tracheotomy,	310	Lateral incision,	315
De Saint Germain's method,	310	Median incision,	315

CHAPTER V.

OPERATIONS PERFORMED UPON THE THORAX.

Amputation of the breast,	316	Paracentesis of the pericardium,	318
Paracentesis of the thorax,	316		

CHAPTER VI.

OPERATIONS PERFORMED UPON THE ABDOMINAL WALL, STOMACH, AND INTESTINES.

Paracentesis of the abdomen,	319	Laparotomy,	323
Gastrotomy and gastrostomy,	320	Right inguinal enterotomy (Nélaton),	325
General considerations and anatomy,	320		
Operation,	323		

	PAGE
Colotomy,	326
Littre's operation,	327
Lumbar colotomy,	327
Closure of an artificial anus or fecal fistula,	329
Suture of the intestine,	331
Longitudinal wounds,	332
Reybard,	332
Jobert,	332
Lembert,	332
Gély,	333
Bouisson,	333
Bérenger-Féraud,	334
Dubrueil,	335
Transverse wounds,	335
Herniotomy, kelotomy,	335
General directions,	336
A. Recognition of the sac and bowel,	336
B. Opening of the sac,	337
C. Division of the stricture,	338
D. Examination and return of the bowel,	339
E. Treatment of the omentum,	340
Strangulated inguinal hernia,	341
Herniotomy, kelotomy—	PAGE
Anatomy,	341
Operation,	342
Malgaigne's method,	344
Strangulated femoral hernia,	344
Strangulated umbilical hernia,	346
Strangulated obturator hernia,	347
Radical cure of inguinal hernia,	347
Pin operation,	353
Radical cure of femoral hernia,	356
Radical cure of umbilical hernia,	358
Imperforate anus or rectum,	361
Prolapse of the rectum,	363
Rectotomy,	364
Excision of anus and part of the rectum,	364
A. Removal by the knife,	364
B. Removal by ligature,	366
C. Removal by the écraseur,	368
Hemorrhoids,	368

CHAPTER VII.

OPERATIONS UPON THE GENITO-URINARY ORGANS OF THE MALE.

Castration,	369
Hydrocele,	370
Puncture of the sac,	371
Excision of the sac,	371
Varicocele,	372
Excision of the scrotum,	373
Division and excision of the veins,	373
Compression by pins,	373
Compression by wires, Vidal's method,	373
Subcutaneous ligature,	374
Ricord's method,	374
Rigaud's method by exposure,	375
Amputation of the penis,	375
Operations for phimosis,	376
Dorsal incision,	376
Circumcision,	377
Paraphimosis,	381
Division of the frenum,	381
Epispadias,	381
Nélaton's method,	382
Thiersch's method,	384
Hypospadias,	386
Urethroplasty,	387
Théophile Anger's method,	388
Duplay's method,	389
Urethral fistula,	391
General considerations,	391
Urethroraphy,	392
Urethroplasty,	393

	PAGE
Urethral fistula—	
Nélaton's method,	394
Reybard, Dieffenbach, and Delore,	394
Delpech and Alliot,	394
Sir Astley Cooper,	394
Arlaud,	394
Sédillot,	395
Rigaud,	395
Théophile Anger,	395
Scymanowski,	395
External perineal urethrotomy,	395
A. With a guide,	395
B. Without a guide,	397
Exstrophy of the bladder,	398
Catheterization,	399
Puncture of the bladder,	401
Above the pubes,	401
Under the pubes,	402
Through the rectum,	402
A. From without inwards,	402
B. McBurney's method,	402
Lithotrity,	404
Lithotomy,	410
General considerations,	410
Lateral lithotomy,	413
Median lithotomy,	418
Bilateral lithotomy,	419
Pre-rectal lithotomy,	421
Recto-vesical lithotomy,	422
Supra-pubic lithotomy,	422
Perineal lithotrity,	423

CHAPTER VIII.

OPERATIONS UPON THE GENITO-URINARY ORGANS OF THE FEMALE.

Catheterization,	425
Lithotomy,	426
Urethral lithotomy,	426
Vesico-vaginal lithotomy,	426
Occlusion, or atresia vaginæ,	427
Ruptured perineum; perineoraphy,	428
Partial rupture,	430
Complete rupture,	432
Vesico-vaginal fistula,	435
Creation of a vesico-vaginal fistula,	440
Obliteration of the vagina; kolpokleisis,	441
Narrowing of the vagina; elytroraphy,	442
Lacerated cervix,	444
Posterior section of the cervix,	446
Amputation of the cervix,	448
Bistoury or scissors,	448
Écraseur,	448
Galvano-cautery,	448
Ovariotomy,	448
Incision,	449
Search for adhesions,	449
Tapping of the cyst and rupture of adhesions,	450
Removal of the sac and treatment of the pedicle,	452
Cleansing of the peritoneum,	455
Closure of the external wound,	455
Vaginal ovariotomy,	456
Hysterotomy (Cæsarian section),	457
Gastro-elytrotomy,	458

CHAPTER IX.

MISCELLANEOUS OPERATIONS.

Splenotomy,	460
Subcutaneous osteotomy,	462
Genu valgum,	462
Shaft of a long bone,	462
Erectile tumors,	463
Birth-mark,	465
Web-fingers,	466
Cicatricial flexion of the phalanges,	467
Ingrown toenail,	468

LIST OF ILLUSTRATIONS

OF STIMSON'S OPERATIVE SURGERY.

NO.		PAGE
1.	Artery forceps,	28
2.	Square knot,	29
3.	Torsion forceps,	29
4.	Effects of torsion upon the coats of an artery,	29
5.	Acupressure,	30
6.	Acupressure,	30
7.	Acupressure,	30
8.	Tourniquet,	32
9.	Tourniquet,	32
10.	Tourniquet,	32
11.	Interrupted suture,	38
12.	Continuous suture,	38
13.	Twisted suture,	38
14.	Harelip pin,	38
15.	Harelip pin with movable point,	38
16.	Buck's pin-conductor,	39
17.	Nippers for cutting off pins,	39
18.	Twisted suture, with rubber ring in place of thread,	39
19.	Quilled suture,	40
20.	Serre-fine,	40
21.	Continuous or spiral bandage,	41
22.	Reversing the turns,	42
23.	Spica of the groin,	42
24.	Spica of the shoulder,	42
25.	Four tailed bandage for knee,	43
26.	T-bandage,	43
27.	Capelline or scalp bandage,	44
28.	Four-tailed bandage for head,	44
29.	Triangular bonnet,	44
30.	Suspensory bandage,	45
31.	Suspensory apparatus for plaster jacket,	47
32.	Tripod,	47
33.	Patient suspended ready for the plaster,	49
34.	Three steps of ligature of an artery,	50
35.	Aneurism needle,	51
36.	Inner coat of artery ruptured by ligature,	52
37.	Ligature of innominate, subclavian, vertebral, and axillary arteries,	55
38.	Ligature of axillary and brachial arteries,	61
39.	Transverse section of the arm,	63
40.	Ligature of brachial artery,	64
41.	Ligature of radial and ulnar arteries,	65
42.	Ligature of common carotid at place of election,	67
43.	Ligature of lingual, external carotid, occipital, temporal, and facial arteries,	70
44.	Anatomical relations of lingual and facial arteries,	72
45.	Ligature of iliac and femoral arteries,	76
46.	Ligature of gluteal, sciatic, and pudic arteries,	78
47.	Ligature of femoral artery,	80
48.	Transverse section of leg,	83
49.	Ligature of anterior tibial artery,	84
50.	Ligature of posterior tibial artery,	85
51.	Amputations of fingers, metacarpal bones, and wrist,	93
52.	Amputation at elbow-joint,	98
53.	Disarticulation at the shoulder,	101
54.	Disarticulation at the shoulder, Spence,	103
55.	Relations of the web and metatarso-phalangeal joint,	104
56.	Amputations of toes and metatarsal bones,	105
57.	Amputation of great toe,	105
58.	Lisfranc's and Chopart's amputations,	108
59.	Chopart's, Syme's, and subastragaloid amputations (outer side),	109
60.	Chopart's, Syme's, and subastragaloid amputations (inner side),	119
61.	Amputation at ankle by internal flap (Roux),	115

NO.		PAGE
62.	Amputation at ankle (Pirogoff), outer side,	116
63.	Amputation at ankle (Pirogoff), inner side,	116
64.	Amputation of leg,	119
65.	Amputation of leg,	120
66.	Amputation of leg,	121
67.	Amputations at knee and lower third of thigh,	126
68.	Amputations at knee and of thigh,	129
69.	Excision of the shoulder, Ollier,	141
70.	Excision of the elbow-joint, Ollier, Von Langenbeck,	145
71.	Excision of the elbow-joint, Nélaton, Hueter,	147
72.	Excision of wrist, Lister. Portions of bone removed,	151
73.	Excision of wrist, Lister. Relation of incisions to tendons,	153
74.	Excision of wrist, Lister, Ollier, Von Langenbeck,	156
75.	Excision of the hip,	158
76.	Subcutaneous division of neck of femur,	160
77.	Adams's saw for subcutaneous division of neck of femur,	161
78.	Lines of section in Sayre's operation for anchylosis of hip-joint,	161
79.	Excision of the knee-joint, cutaneous incisions,	162
80.	Excision of the knee-joint, lines of section of bone,	164
81.	Excision of the knee-joint, lines of section of bone,	164
82.	Excision of ankle,	165
83.	Excision of superior maxilla,	169
84.	Excision of superior maxilla,	170
85.	Removal of naso-pharyngeal polyp, Ollier,	174
86.	Excision of inferior maxilla,	178
87.	Excision of scapula,	183
88.	Resection of tibia, protection of periosteum against chain saw,	189
89.	Excision of calcaneum and astragalus,	192
90.	Trephine,	197
91.	Hey's saw,	197
92.	Resection of supra-orbital and superior maxillary nerves,	200
93.	Cheiloplasty, V-incision,	210
94.	Cheiloplasty, oval horisontal incision,	211
95.	Cheiloplasty, Celsus's incisions,	211
96.	Cheiloplasty, Celsus's flaps in place,	211
97.	Cheiloplasty, Dieffenbach,	212
98.	Cheiloplasty, Syme-Buchanan, incisions,	212
99.	Cheiloplasty, Syme-Buchanan, flaps in place,	212
100.	Restoration of lower lip, Buck's incisions,	213
101.	Restoration of lower lip, Buck's flaps in place,	213
102.	Cheiloplasty, Malgaigne,	215
103.	Cheiloplasty, Sédillot,	215
104.	Lengthening of the mouth, Buck,	216
105.	Cheiloplasty, upper lip, Sédillot, incisions,	217
106.	Cheiloplasty, upper lip, Sédillot, flaps in place,	217
107.	Cheiloplasty, upper lip, Buck,	218
108.	Simple single harelip,	219
109.	Simple single harelip, Nélaton,	220
110.	Harelip, single flap,	220
111.	Harelip, Giraldes,	221
112.	Double harelip,	221
113.	Cheek compressor,	222
114.	Rhinoplasty, lateral flaps,	224
115.	Rhinoplasty, lateral flap, Von Langenbeck,	225
116.	Rhinoplasty, Denonvilliers,	225
117.	Rhinoplasty, Dieffenbach's operation,	227
118.	Rhinoplasty, double layer or superposed flaps, Verneuil,	229
119.	Rhinoplasty, Indian method,	231
120.	Rhinoplasty, Ollier's osteoplastic method,	234
121.	Rhinoplasty, Italian method,	235
122.	Canthoplasty,	237
123.	Ectropion, Wharton Jones,	238
124.	Ectropion, Alphonse Guérin,	238
125.	Ectropion, Von Graefe, Knapp,	239
126.	Ectropion, Dieffenbach, Adams, Ammon,	240
127.	Ectropion, Richet,	240
128.	Ectropion, Burow,	241
129.	Ectropion, Dieffenbach,	242

NO.		PAGE
130.	Ectropion, modified Indian, Richet,	242
131.	Ectropion, Hasner d'Artha,	243
132.	Ectropion, Denonvilliers,	244
133.	Entropion, ligature,	245
134.	Entropion, lower lid,	245
135.	Entropion, upper lid,	245
136.	Pope's forceps,	247
137.	Entropion, Streatfeild,	247
138.	Symblepharon,	248
139.	Symblepharon, incisions,	248
140.	Symblepharon, flaps in place,	248
141.	Pterygion,	249
142.	Eye speculum,	251
143.	Stop needle and probe for cornea,	252
144.	Staphyloma, line of incision,	253
145.	Staphyloma, after removal,	253
146.	Beer's knife,	254
147.	Iridectomy knife, straight,	257
148.	Iridectomy knife, bent,	257
149.	Iridectomy forceps,	258
150.	Iridectomy forceps,	258
151.	Iridectomy scissors,	258
152.	Iridectomy, incision of cornea,	258
153.	Iridectomy, excision of iris,	259
154.	Tyrrell's hook,	259
155.	Broad needle for incising cornea,	259
156.	Canula forceps,	260
157.	Iridesis,	261
158.	Streatfeild's spatula hook,	262
159.	Couching needle,	263
160.	Depressing cataract,	264
161.	Bowman's fine stop needle,	265
162.	Hays's knife needle,	265
163.	Sichel's knife,	267
164.	Von Graefe's cystotome and curette,	267
165.	Flap extraction of cataract. Fixing the eye and making the incision,	268
166.	Flap extraction of cataract. Removal of lens by pressure,	269
167.	Von Graefe's cataract knife,	270
168.	Iridectomy forceps,	270
169.	To show method of making Von Graefe's incision,	271
170.	Line of Von Graefe's incision,	271
171.	Diagram of correct and faulty sections of iris,	272
172.	Critchett's scoop,	274
173.	Bowman's scoop,	274
174.	Bowman's scoop,	274
175.	Curette and mouthpiece for removal of cataract by suction,	275
176.	Fine-toothed forceps for strabotomy,	278
177.	Strabotomy hook,	278
178.	Mode of estimating the degree of squint,	280
179.	Double operation for strabismus,	280
180.	Extirpation of lachrymal gland,	282
181.	Sharp-pointed canaliculus director,	284
182.	Bowman's probe-pointed canaliculus knife,	284
183.	Puncture of the lachrymal sac,	284
184.	Stilling's knife,	285
185.	Tonsilotome,	289
186.	Smith's gag,	291
187.	Staphyloraphy,	292
188.	Staphyloraphy, incisions,	292
189.	Staphyloraphy, sutures,	292
190.	Staphyloraphy, division of muscles of soft palate,	293
191.	Staphyloraphy, passing the sutures,	295
192.	Lee's clamp for the tongue,	302
193.	Ecraseur,	304
194.	Hutchinson's gag,	304
195.	Bivalve canula, closed,	313
196.	Bivalve canula, with tube in place,	313
197.	Vacca-Berlinghieri's œsophageal sound,	314
198.	Paracentesis of thorax,	317
199.	Anatomical relations of stomach with reference to gastrotomy,	321
200.	Right inguinal enterotomy, Nélaton,	326
201.	Dupuytren's enterotome,	330
202.	Suture of intestines, Lembert,	332
203.	Suture of intestines, Gély,	333
204.	Suture of intestines, Bouisson,	334
205.	Suture of intestines, Bérenger-Féraud,	334
206.	Suture of intestines, Jobert (transverse wound),	335
207.	Hernia knife,	339
208.	Inside view of internal abdominal and femoral rings	341

NO.		PAGE
209.	External abdominal ring and abdominal layers,	342
210.	Variations in origin and course of obturator artery	345
211.	Wood's knife and needle for radical cure of hernia,	348
212.	Wood's radical cure of inguinal hernia; 1st puncture,	349
213.	Wood's radical cure of inguinal hernia; 3d puncture,	350
214.	Radical cure of large hernia; withdrawing needle,	351
215.	Radical cure of inguinal hernia; wires in place,	353
216.	Radical cure of inguinal hernia; vertical section,	353
217.	Pins used in the pin operation for radical cure,	354
218.	Placing the 1st pin,	354
219.	Pins in place,	355
220.	Radical cure of femoral hernia. Wires in place,	356
221.	Radical cure of femoral hernia. 1st and 2d punctures,	357
222.	Radical cure of umbilical hernia. Instruments,	358
223.	Radical cure of umbilical hernia. Passing 1st wire,	359
224.	Radical cure of umbilical hernia. Passing 2d wire,	359
225.	Radical cure of umbilical hernia. Passing second ends of wires,	360
226.	Radical cure of umbilical hernia. Wires in place,	360
227.	Extirpation of anus. Récamier,	366
228.	Method of surrounding rectum with ligatures,	367
229.	Extirpation of rectum. Maisonneuve,	367
230.	Vidal's operation for varicocele,	374
231.	Vidal's operation for varicocele,	374
232.	Vidal's operation for varicocele. The wires,	374
233.	Ricord's method of tying veins in varicocele,	375
234.	Circumcision. 1st incision,	378
235.	Circumcision. Raw surface left by retraction,	379
236.	Circumcision. Delavan. 1st incision,	379
237.	Circumcision. Delavan. Fitting in the triangle,	379
238.	Circumcision. Keyes,	380
239.	Epispadias. Nélaton,	383
240.	Epispadias. Thiersch,	384
241.	Epispadias. Thiersch. 2d step,	385
242.	Epispadias. Thiersch. Transverse section,	385
243.	Hypospadias. Théophile Anger,	389
244.	Hypospadias. Duplay,	390
245.	Urethroplasty,	393
246.	Urethroplasty. Nélaton,	393
247.	Syme's staff,	396
248.	Tunnelled staff and whalebone guide,	396
249.	Exstrophy of bladder. Incisions,	399
250.	Exstrophy of bladder. Flaps in place,	399
251.	Mercier's elbowed catheter,	401
252.	McBurney's instruments for puncture of bladder per rectum,	403
253.	Thompson's lithotrite,	404
254.	Fenestrated jaw of lithotrite,	404
255.	Scoop lithotrite,	405
256.	Bigelow's lithotrite,	406
257.	Bigelow's lithotrite,	406
258.	Bigelow's evacuating tubes,	408
259.	Bigelow's evacuating apparatus,	409
260.	Position of viscera at outlet of pelvis,	410
261.	Lateral lithotomy. Extent of incision of urethra,	411
262.	Lateral lithotomy. Incision of neck of bladder,	412
263.	Lateral lithotomy staff,	413
264.	Lateral lithotomy scalpel,	413
265.	Lateral lithotomy. Blizard's knife,	413
266.	Lateral lithotomy. Blunt gorget,	413
267.	Lateral lithotomy, scoop,	413
268.	Lateral lithotomy, forceps,	414
269.	Lateral lithotomy, forceps,	414
270.	Lateral lithotomy, forceps,	414
271.	Shirted canula,	414
272.	Lateral lithotomy, Position of patient and incision,	415
273.	Lateral lithotomy. Relations of the incisions to each other and to the prostate,	416

NO.		PAGE
274.	Median lithotomy. Staff,	418
275.	Median lithotomy. Ball-pointed director,	418
276.	Median lithotomy. Double-edged scalpel,	418
277.	Median lithotomy with rectangular staff,	419
278.	Dupuytren's double lithotome caché,	420
279.	Dolbeau's dilator,	423
280.	Gouley's lithoclast,	423
281.	Guyon-Duplay dilator,	424
282.	Catheterization of the female; holding the catheter,	425
283.	Sims's speculum,	427
284.	Perineal body perfect,	429
285.	Perineum improperly repaired,	429
286.	Curved scissors,	430
287.	Emmet's scissors,	430
288.	Thomas's toothed forceps,	430
289.	Sponge holder,	430
290.	Profile of perineum,	431
291.	Perineoraphy. Sutures in position,	431
292–295.	Diagrammatic of method of closing complete rupture of perineum,	433
296.	Ruptured sphincter. 1st suture,	434
297.	Ruptured sphincter. 1st and 2d sutures in place,	434
298.	Vesico-vaginal fistula. Line of paring,	435
299.	Vesico-vaginal fistula. Drawing the uterus down	436
300.	Vesico-vaginal fistula. Needle holder,	437
301.	Vesico-vaginal fistula. Course of the needle,	437
302.	Vesico-vaginal fistula. Passing the needle,	437
303.	Vesico-vaginal fistula. Shield,	438
304.	Vesico-vaginal fistula. Fork.	431
305.	Vesico-vaginal fistula. Blunt hook,	438
306.	Vesico-vaginal fistula. Twisting sutures,	438
307.	Vesico-vaginal fistula. Simon's method of placing sutures,	439
308.	Vesico-vaginal fistula. Incision united,	440
309.	Sims's catheter,	440
310.	Obliteration of the vagina; kolpokleisis,	441
311.	Narrowing of the vagina; elytroraphy,	443
312.	Thomas's dilating forceps,	443
313.	Toothed clamp,	444
314.	Lacerated cervix, side view,	445
315.	Lacerated cervix, denuded surface and sutures,	445
316.	Sims's knife for section of the cervix,	447
317.	Posterior section of the cervix,	447
318.	Spencer Wells's trocar,	450
319.	Spencer Wells's clamp,	452
320.	French clamp,	453
321.	Dawson's clamp,	453
322.	Ligatures of the pedicle including each other,	454
323.	Method of passing the ligature,	454
324.	Genu valgum; section of internal condyle,	462
325.	Genu valgum; internal condyle forced upwards,	463
326.	Subcutaneous ligature of nævus,	464
327.	Ligature of nævus,	464
328.	Ligature of nævus,	465
329.	Ligature of nævus,	465
330.	Ligature of nævus,	465
331.	Web fingers,	466
332.	Ingrown toe-nail,	468

GRAY'S ANATOMY—New Edition—Now Ready.

ANATOMY, DESCRIPTIVE AND SURGICAL. By HENRY GRAY, F.R.S., Lecturer on Anatomy at St. George's Hospital, London. The Drawings by H. V. CARTER, M.D., and Dr. WESTMACOTT. The Dissections jointly by the AUTHOR and Dr. CARTER. With an Introduction on General Anatomy and Development by TIMOTHY HOLMES, M.A., Surgeon to St. George's Hospital. A new American, from the eighth enlarged and improved London Edition. To which is added "LANDMARKS, MEDICAL AND SURGICAL," by LUTHER HOLDEN, F.R.C.S., author of "Human Osteology," "A Manual of Dissections," etc. In one magnificent imperial octavo volume of nearly one thousand pages, with five hundred and twenty-two large and elaborate engravings on wood.

The author has endeavored in this work to cover a more extended range of subjects than is customary in the ordinary text-books, by giving not only the details necessary for the student, but also the application of these details in the practice of medicine and surgery, thus rendering it both a guide for the learner, and an admirable work of reference for the active practitioner. The engravings form a special feature in the work, many of them being the size of nature, nearly all original, and having the names of the various parts printed on the body of the cut, in place of figures of reference with descriptions at the foot. They thus form a complete and splendid series, which will greatly assist the student in obtaining a clear idea of Anatomy, and will also serve to refresh the memory of those who may find in the exigencies of practice the necessity of recalling the details of the dissecting room; while combining, as it does, a complete Atlas of Anatomy, with a thorough treatise on systematic, descriptive, and applied Anatomy, the work will be found of essential use to all physicians who receive students in their offices, relieving both preceptor and pupil of much labor in laying the groundwork of a thorough medical education.

Since the appearance of the last American edition, the work has received three revisions at the hands of its accomplished editor, Mr. Holmes, who has sedulously introduced whatever has seemed requisite to maintain its reputation as a complete and authoritative standard text-book and work of reference. Still further to increase its usefulness, there has been appended to it the recent work by the distinguished anatomist, Mr. Luther Holden, "Landmarks, Medical and Surgical," which gives, in a clear, condensed, and systematic way, all the information by which the practitioner can determine from the external surface of the body the position of internal parts. The thoroughness with which every portion of the volume has been executed may be judged by the Index, consisting of nearly one hundred columns, with over 6000 references—1200 more than in the last American edition. Thus complete, the work, it is believed, will furnish all the assistance that can be rendered by type and illustration in anatomical study. No pains have been spared in the typographical execution of the volume, which will be found in all respects superior to former issues. Notwithstanding the increase of size, amounting to over one hundred pages, with fifty-seven additional illustrations, it will be kept, as heretofore, at a price which renders it one of the cheapest works ever offered to the American profession.

ALSO FOR SALE SEPARATE.

LANDMARKS, MEDICAL AND SURGICAL. By LUTHER HOLDEN, F.R.C.S., Surgeon to St. Bartholomew's and the Foundling Hospitals. From the Second London Edition. In one handsome royal 12mo. volume of 128 pages; cloth, 88 cents. (*Now Ready.*)

HENRY C. LEA—Philadelphia.

TITLE AND CONTENTS

OF

BARNES

ON THE

MEDICAL AND SURGICAL

DISEASES OF WOMEN.

IN ONE VOLUME, LARGE OCTAVO, OF 784 PAGES.

Price $4.50 in Cloth; $5.50 in Leather.

HENRY C. LEA,

Philadelphia.

WORKS ON OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN.

THOMAS'S PRACTICAL TREATISE ON THE DISEASES OF WOMEN. Fourth Edition, thoroughly revised and enlarged. In 1 large 8vo. volume of 800 pages, with 191 illustrations: cloth, $5; leather, $6. (*Just Issued.*)

EMMET'S PRINCIPLES AND PRACTICE OF GYNÆCOLOGY, FOR PRACTITIONERS AND STUDENTS. In one large 8vo. volume of about 800 pages, with many illustrations. (*Preparing.*)

WEST'S LECTURES ON DISEASES OF FEMALES. Third American, from the third English edition. In one 8vo. volume of about 550 pages. Cloth, $3 75; leather, $4 75.

HODGE ON DISEASES PECULIAR TO WOMEN, including Displacements of the Uterus. With original illustrations. Second and revised edition. In one beautiful 8vo. volume of 531 pages. Cloth, $4 50.

CHADWICK'S MANUAL OF THE DISEASES PECULIAR TO WOMEN. In one neat royal 12mo. volume, with illustrations. (*Preparing.*)

PLAYFAIR'S TREATISE ON THE SCIENCE AND PRACTICE OF MIDWIFERY. Second American, from the second and revised English edition. Edited, with additions, by ROBERT P. HARRIS, M.D. In one handsome 8vo. volume, with many illustrations. (*Preparing.*)

LEISHMAN'S SYSTEM OF MIDWIFERY, INCLUDING THE DISEASES OF PREGNANCY AND THE PUERPERAL STATE. Second American, from the second and revised English edition, with additions by JOHN S. PARRY, M.D., Obstetrician to the Philada. Hospital. In 1 large and very handsome 8vo. volume, with about two hundred illustrations. Cloth, $5; leather, $6. (*Just Issued.*)

HODGE'S PRINCIPLES AND PRACTICE OF OBSTETRICS. Illustrated with large lithographic plates containing 159 figures, and with numerous wood-cuts. In 1 handsome 4to. volume of 550 double-column pages. Cloth, $14.

RAMSBOTHAM'S PRINCIPLES AND PRACTICE OF OBSTETRIC MEDICINE AND SURGERY, IN REFERENCE TO THE PROCESS OF PARTURITION. A new and enlarged edition, with additions by W. V. KEATING, M.D., Professor of Obstetrics in the Jefferson Med. College, Philada. In 1 large imperial 8vo. volume of 650 pages, with 64 plates and numerous wood-cuts. Leather, $7.

CHURCHILL ON THE THEORY AND PRACTICE OF MIDWIFERY. A new American, from the fourth London edition. Revised and enlarged by D. FRANCIS CONDIE, M.D. In one handsome 8vo. volume of nearly 700 pages, with 194 illustrations. Cloth, $4; leather, $5.

SWAYNE'S OBSTETRIC APHORISMS, FOR THE USE OF STUDENTS COMMENCING MIDWIFERY PRACTICE. Second American, from the fifth and revised London edition. With additions by E. R. HUTCHINS, M.D. In one neat 12mo. volume, with illustrations. Cloth, $1 25.

TANNER ON THE SIGNS AND DISEASES OF PREGNANCY. First American, from the second and revised English edition. With four colored plates and wood-cuts. In one octavo volume of about 500 pages. Cloth, $4 25.

MONTGOMERY'S EXPOSITION OF THE SIGNS AND SYMPTOMS OF PREGNANCY. With two colored plates and numerous wood-cuts. In one 8vo. volume of nearly 600 pages. Cloth, $3 75.

PARRY'S EXTRA-UTERINE PREGNANCY, ITS CLINICAL HISTORY, DIAGNOSIS, PROGNOSIS, AND TREATMENT. In 1 handsome 8vo. volume. Cloth, $2 50.

SMITH'S COMPLETE PRACTICAL TREATISE ON THE DISEASES OF CHILDREN. Third edition, revised and enlarged. In one handsome 8vo. volume of 726 pages. Cloth, $5; leather, $6. (*Just Issued.*)

WEST'S LECTURES ON THE DISEASES OF INFANCY AND CHILDHOOD. Fifth American, from the sixth revised and enlarged English edition. In one handsome 8vo. volume of 678 pages. Cloth, $4 50; leather, $5 50. (*Lately Issued.*)

WEST ON SOME DISORDERS OF THE NERVOUS SYSTEM IN CHILDHOOD. In one 12mo. volume. Cloth, $1 00.

HENRY C. LEA, Philadelphia.

A CLINICAL HISTORY

OF THE

MEDICAL AND SURGICAL

DISEASES OF WOMEN.

BY

ROBERT BARNES, M.D. LOND.,

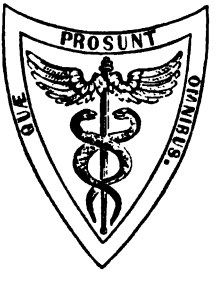
CENSOR OF THE ROYAL COLLEGE OF PHYSICIANS, LUMLEIAN LECTURER (1873); LATE EXAMINER IN OBSTETRICS AND THE DISEASES OF WOMEN AT THE UNIVERSITY OF LONDON AND THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS; OBSTETRIC PHYSICIAN AND LECTURER ON OBSTETRICS AND THE DISEASES OF WOMEN TO ST. GEORGE'S HOSPITAL.

SECOND AMERICAN

FROM THE

SECOND AND REVISED LONDON EDITION.

WITH ONE HUNDRED AND EIGHTY-ONE ILLUSTRATIONS.



PHILADELPHIA:
HENRY C. LEA.
1878.

DEAR DR. FORDYCE BARKER,

I rejoice at my good fortune in being allowed to place this book under your protection. Your imprimatur will help me to bear more lightly the burden of its many faults.

And let me here express through you, in whom are so happily combined the genial heart and the scientific spirit which animate our American brethren, my gratitude for the unbounded kindness which made my visit to them an epoch of pleasant memories.

Yours ever truly,

ROBERT BARNES.

TO FORDYCE BARKER, M.D., LL.D.,
FIRST PRESIDENT OF THE AMERICAN GYNÆCOLOGICAL SOCIETY.

PREFACE.

THE First Edition of this work has been long exhausted. I have not on that account hurried the preparation of this Second Edition. The book has been subjected to conscientious revision. It is hoped that some of its defects have been either removed or lessened. By pruning redundancies, and by re-arrangement, space has been gained for the addition of new matter. The size of the book is not increased; yet room has been found for a new Chapter on the Relations of Bladder and Bowel Disorders to the proper subject-matter of the book.

Many new illustrations have been added. I think it not unimportant to state, that I have given under every borrowed illustration the source whence it was taken. The illustrations contributed by myself are indicated by my initials.

Although the work is essentially the fruit of my experience and study as a practitioner, teacher, and examiner, I have earnestly sought to correct my own observations, and to enrich the book by drawing from other sources. I have, as a rule, specified in the text the titles of the works consulted. The opportunity is thus afforded to my readers of controlling my citations, and of extending their information, by appealing to the original sources. The instances are rare in which I have failed to consult directly the

authors cited. The copious index of authors will bear testimony to my diligence in this way. This index and the titles of the works referred to will supply a fairly comprehensive bibliography of the subject.

For useful aid in correcting the press, and in otherwise lightening the labor incidental to the preparation of a work of this kind, I am indebted to my son Dr. Fancourt Barnes.

ROBERT BARNES.

15, HARLEY STREET, LONDON,
June, 1878.

CONTENTS.

CHAPTER I.

PAGE

INTRODUCTORY: Anatomy of Pelvic Organs: the Ovaries; Fallopian Tubes; Uterus; Douglas's Pouch; Axis and Movements of Uterus; Changes under Menstruation; Vagina; Vulva 17

CHAPTER II.

Conditions indicating Necessity for Local Examination: Disorder of Function—Distant and Constitutional Reactions—the Subjective Signs of Local Disease indicate Appeal to Objective signs—Comparison of Study of Disease of Pelvic Organs with that of Skin and Eye—Disturbance of Functions of Ovaries, Uterus, and Vagina—Amenorrhœa, Real and Occult; Menorrhagia; Dysmenorrhœa—Abortion—Discharges: Leucorrhœa, Mucous, Albuminous, Watery, Gaseous, Purulent, Hemorrhagic, Fleshy, Membranous—Nervous Phenomena: Pain, Lumbo-Dorsal, Inguinal, Pelvic; Irritable Ovary; Irritable Uterus; Mastodynia; Neuralgia, Spinal Irritation, Paraplegia, Mental Disorder, Reflex Nervous Phenomena, Vomiting, Convulsion, Epilepsy, Hysteria—Dyspareunia, Vaginismus—Sterility . . . 69

CHAPTER III.

Significance of Symptoms Connected with Bladder and Urinary Disorders in relation to Uterine and Peri-uterine Affections:—Retention of Urine; Ischuria; Partial Retention; Incontinence; Cystitis; Abnormal Matters in Urine:—Blood, Pus, Fæculent Matter, Hair, Fat, Bones, Albumen—Significance of; Malignant Disease of Bladder, Primary and Secondary; Dysuria. Significance of Symptoms connected with Rectum and other Bowel-disorders in relation to Uterine and Peri-uterine Affections, Hemorrhoids, Fissure, Dyschezia, Constipation, Retention of Fæces; Copræmia Blood, Pus, Mucus in the Fæces; Hair, Teeth, Bones, Fœtal Elements in the Fæces 120

CHAPTER IV.

The Instruments Serving for Diagnosis and Treatment 140

CHAPTER V.

PAGE

The Diagnosis of Diseases of the Pelvic Organs. The Touch—The Sound—The Speculum 157

CHAPTER VI.

The Pathology of the Ovaries—The History of Menstruation and its Disorders 170

CHAPTER VII.

Disordered Menstruation (Paramenia, W. Farr).—Amenorrhœa, Chloro-anæmia, Primitive, Secondary; Arrested or Suppressed Menstruation; Retention of Menses or Occult Menstruation; Atresia Vulvæ, Vaginæ, Uteri . 189

CHAPTER VIII.

Dysmenorrhœa—Neuralgic; Congestive; from Obstructed Excretion; Inflammatory; Ovarian Dysmenorrhœa; Dysmenorrhœa Membranacea, or Exfoliativa 215

CHAPTER IX.

The Menstrual Irregularities of the Climacteric Epoch 249

CHAPTER X.

The Relations of Menstruation to Various Diseases—The Influences of Ovulation and Menstruation in Evoking Morbid Influences 258

CHAPTER XI.

Ovary: Absence of; Abnormal Conditions of; Displacement: Prolapsus; Hernia; Hyperæmia; Hemorrhage; Anomalies of Corpus Luteum; Inflammation (Oophoritis); Tubercle; Cancer; Solid Tumors; Fibroma . 264

CHAPTER XII.

Ovarian Cystic Tumors; their Nature—Simple; Multiple; Proliferous; Cysto-Sarcomatous; Tubo-Ovarian; Dermoid Cysts 285

CHAPTER XIII.

Ectopic or Extra-Uterine Gestation: Tubal; Ovarian; Tubo-Ovarian; Abdominal; Interstitial; Cervical; One-Horned Uterine Gestation . . 300

CHAPTER XIV.

PAGE

The Fallopian Tubes: Absence of; Separation of; Inflammation (Salpingitis); Catarrh; Hemorrhage; Hæmatoma; Occlusion, Cystic Dilatations; Dropsy; Fibroid Tumors; Tubercle; Cancer—Broad Ligaments: Cysts; Terminal Tubal; Parovarian; Fibroid Tumors; Phlebolithes 331

CHAPTER XV.

Natural Course and Terminations of Ovarian Tumors 342

CHAPTER XVI.

Treatment of Ovarian Cystic Disease: Historical Note; Medicinal, Local Medication, Surgical. Tapping by Vagina; by Abdomen; Tapping Combined with Iodic Injections; Incisions in Cyst; Electrolysis; Ovariotomy 375

CHAPTER XVII.

Special Pathology of the Uterus; Developmental Faults; Unilateral Development; Uterus Bicornis; Uterus Bipartitus; Bilocularis; Hypertrophy; Atrophy 403

CHAPTER XVIII.

General Observations on Uterine Pathology; Effects of Labor and Lactation; Involution in Defect and Excess 413

CHAPTER XIX.

Conditions marked by Altered Vascularity or Blood-supply: Fluxion; Hyperæmia; Congestion; Inflammation; Metritis; Endometritis or Uterine Catarrh; Tubercular and Syphilitic Endometritis; Intra-Uterine Medication; Cystic Endometritis; Softening and Induration of Uterus; Senile Catarrh 431

CHAPTER XX.

Pelvic Cellulitis (Parametritis): Pelvic Peritonitis (Perimetritis): General Discussion on Pathology and Causes; Perimetric Inflammation (Peri-Uterine Inflammation); Metro-Peritonitis 486

CHAPTER XXI.

Perimetric Hæmatocele; Retro-Uterine Hæmatocele: Pelvic Hæmatocele; Blood-Effusions in the Neighborhood of the Uterus; Pathological Discussion; Groups of Cases:—1. From Rupture of Uterus, Gravid; 2. Rupture

PAGE

of Ectopic Gestation-Cyst; 3. Rupture of Diseased Ovaries; 4. Effusions attending Abortion; 5. Effusions from Menstrual Obstruction; 6. From Altered Character of Blood: 7. Other Causes; Symptoms and Diagnosis; Course; Treatment 510

CHAPTER XXII.

Displacements of the Uterus, General Propositions; Definition; Varieties of: Prolapsus Described; Hypertrophy of the Vaginal-portion; Oblique or Lateral Displacements; Elevation; Depression; Elongation by Stretching and Pressure; Dislocations of Uterus by External Pressure; Versions and Flexions; Anteversion; Anteflexion; Retroversion; Retroflexion . . 539

CHAPTER XXIII.

Inversion of the Uterus; Definition: Acute and Chronic; Causes, in the Parturient and Non-pregnant Uterus; Symptoms, Course, and Terminations; Prognosis; Diagnosis; Treatment 602

CHAPTER XXIV.

Tumors of the Uterus: Malignant and Non-malignant; Fibroid or Myomatous; Structure of Uterine Tumors; Seat; Shape; Density; Vascularity; Law of Growth; Conversion of Muscular into Fibroid Tumors; Process of Expulsion, Formation of Polypus; Fleshy and Fibro-Cystic Tumors; Recurrent Fibroid; Erectile; Development and Decay of Fibroids; Fatty Degeneration; Softening; Cretification; Influence of Fibroids on Uterus, Surrounding Organs, and System Generally; Enlargement, Deformity, Displacement of Uterus; Dysmenorrhœa, Metrorrhagia, Sterility; Atrophy of Uterus; Ulceration, Perforation; Pressure upon Surrounding Organs; Pain; Phlegmasia Dolens, Peritonitis; Symptoms and Diagnosis; Treatment 640

CHAPTER XXV.

POLYPUS UTERI.

Definition; Forms of; Fibroid or Myoma; Glandular or Mucous; Hypertrophic; Vascular; Placental; Fibrinous; History of Fibroid; Fibro-Cystic Variety; Symptoms; Terminations; Intra-uterine and Extra-Uterine Polypi; Diagnosis; Treatment; Slow Strangulation, Dangers of; Torsion, Crushing, and Excision by Scissors; Removal by Polyptome, Écraseur, Galvanic Wire Cautery 681

CHAPTER XXVI.

Tubercle of the Uterus 698

CHAPTER XXVII.

PAGE

Cancer: Definition; Degrees of Malignancy; its Local Origin; Hereditary Transmission; its Frequency. Is it Contagious? Causes; Forms of: Medullary; Epithelioma; Sarcoma; Scirrhous; Myxoma; Corroding Ulcer. Duration of Cancer. Cancer and Pregnancy. The Course and Terminations of Cancer; Diagnosis; Prognosis. Treatment: Question of Curability; Total Extirpation of Uterus; Amputation of Vaginal-Portion, Selection of Cases for; the Operation; Cautery, Actual and Potential. Treatment of Cancer of Body of the Uterus. Palliative Treatment; Local and Constitutional 703

CHAPTER XXVIII.

THE DISEASES OF THE VAGINA.

Colpitis (Vaginitis): Simple, Infectious, Acute, Chronic; Displacements; Wounds; Dilatation; Atrophy; Contraction; Syphilitic, Tuberculous, Cancerous Ulcerations; Sloughing; Cicatrices; Lacerations of the Cervix Uteri; Vesico-Vaginal and Recto-Vaginal Fistulæ; Ruptured Perineum; New Formations: Fibrous Tumors; Sarcomata; Cystic Tumors; Hæmatoma; Calculi 740

CHAPTER XXIX.

THE DISEASES OF THE VULVA.

Inflammation: General or Partial; of the Vulvo-Vaginal Glands; Abscesses; Ulcerations; Sloughs; Hæmatoma; Varicosity; Pruritus; Eczema; Folliculitis; Hypertrophy of Labia and Clitoris; "Endermoptosis;" Neuromata; Cysts; Syphilitic Warty Excrescences; Lupus; Cancer; Melanosis; Vascular Excrescence and other growths of the Meatus Urinarius and Urethra; Fissure of the Vulva. Coccygodynia 761

INDEX OF AUTHORS 775

INDEX OF SUBJECTS 779

LIST OF WOOD ENGRAVINGS.

FIG.		PAGE
1.	Pelvic Organs, in section (Sappey)	18
2.	Genital Organs, *in situ* (Savage)	19
3.	Adult Parovarium, Ovary, and Fallopian Tube (Kobelt)	20
4.	Right Fallopian Tube laid open (Richard)	21
5.	Ovary enlarged under Menstrual Nisus (Raciborski)	24
6.	Menstrual Corpus Luteum and Ovary (Raciborski)	25
7.	Bulb of Ovary (Savage)	26
8.	Ovary in Old Age (R. B.)	28
9.	Three Winglets of the Broad Ligament (Sappey)	31
10.	Longitudinal Section of Pelvis (Breisky)	34
11.	Uterus and Appendages of an Infant (A. Farre)	40
12.	Vertical Section of Uterus (A. Farre)	41
13.	Virgin Os Uteri and Vaginal-Portion (A. Farre)	42
14.	Os Uteri in Old Age	43
15.	The Uterus in Old Age (A. Farre)	43
16.	Shrinking of the Walls in Old Age (A. Farre)	44
17.	Cervix laid open (Hassall and Tyler Smith)	44
18.	Multiparous Uterus (Sappey)	47
19.	Virgin Uterus (Sappey)	48
20.	Section of Uterus, above entrance of Fallopian Tubes (A. Farre)	48
21.	Section through centre of Cavity of Uterus (A. Farre)	49
22.	Section through centre of Cervical Canal (A. Farre)	49
23.	Cast of Cavities of Uterus, Virgin, æt. 17 (Guyon)	49
24.	Cast of Cavities of Multiparous Uterus, æt. 25–30 (Guyon)	49
25.	Cast of Cavities of Multiparous Uterus, æt. 42 (Guyon)	50
26.	Cast of Cavities of Multiparous Uterus, æt. 35 (Guyon)	50
27, 28, 29.	Changes of Mucous Membrane; Menstruation just ended; Three days after Menstruation; Just before Menstruation (John Williams)	54
30.	Section through Mucous Membrane of Normal Virgin Uterus (Kundrat)	55
31.	Section of a Maiden Menstruating Uterus (Kundrat)	55
32.	Villi of Os Uteri, Epithelium removed (Tyler Smith and Hassall)	56
33.	Extremities of Villi of Os Uteri (Tyler Smith and Hassall)	57
34.	Villi of Os Uteri, covered by Pavement Epithelium, and containing looped Bloodvessels (Tyler Smith and Hassall)	57
35.	Mucous Discharge from Healthy Cervix Uteri (Tyler Smith and Hassall)	75
36.	Cervical Leucorrhœa (Tyler Smith and Hassall)	75
37.	Epithelium in Vaginal Leucorrhœa (Tyler Smith and Hassall)	76
38.	Situation, Direction, and Relations of the Uterus when Bladder is full (Sappey)	126
39.	Fergusson's Speculum	144
40.	Cusco's Speculum	144
41.	Sims's Speculum	145
42.	Barnes's Speculum (R. B.)	145
43.	Simpson's Uterine Sound	147

FIG.		PAGE
44.	Barnes's Whalebone Sound (R. B.)	147
45.	Küchenmeister's Metrotome Scissors	149
46.	Simpson's Metrotome	150
47.	Simpson's Tenaculum Hook	150
48.	Improved Wire Ecraseur (R. B.)	151
49.	Barnes's Instrument for Introducing Laminaria or Sponge-tents into the Uterus (R. B.)	151
50.	Barnes's Nitrate of Silver Cautery	154
51.	Barnes's Tube for Depositing Fused Sticks of Sulphate of Zinc in Uterus (R. B.)	154
52.	Barnes's Uterine Ointment and Nitric Acid Positor (R. B.)	155
53.	Higginson's Vaginal Syringe	155
54.	Barnes's Speculum for Application of Medicated Cotton Wool in Vagina (R. B.)	156
55, 56.	Skeleton Diagrams for Recording Alterations of Size, Position, and Relations of Pelvic and Abdominal Organs (R. B.)	158, 159
57.	Diagnosis of Early Pregnancy (R. B.)	164
58.	Showing Reversal of Sound *in utero* (R. B.)	165
59, 60, 61.	Diagrams showing High Tension preceding Menstruation, High Tension in Ninth Month of Gestation, and Ordinary Tension after Menstruation (Fancourt Barnes)	174
62.	Dilated Uterus and Vagina from Retained Menses (R. B.)	204
63.	Complete Occlusion of Vulva (Radcliffe Museum) (R. B.)	205
64.	Atresia of Vagina (R. B.)	210
65.	Conical Vaginal-Portion (R. B.)	222
66.	Common Form of Narrow Os Uteri in Dysmenorrhœa and Sterility (R. B.)	222
67.	Section of Conical Cervix with Small Os Externum (R. B.)	223
68.	Section of Uterus made at Os Internum (R. B.)	226
69.	Action of Küchenmeister's Scissors (R. B.)	230
70.	Uterine Mucous Membrane shed entire (R. B.)	242
71.	Exfoliated Mucous Membrane of Vagina (R. B.)	245
72.	Blood Coagulum in a Cyst of Ovary (R. B.)	269
73.	Fibrous Tumor of Ovary (R. B.)	270
74.	Early Stages of Cystic Disease (R. B.)	286
75.	Incipient Cystic Enlargement of Graafian Follicles (R. B.)	287
76.	Fibrous Stroma of Compound Cystic Tumor of Ovary (H. Arnott)	290
77.	Epithelial Lining of a Compound Ovarian Cyst (H. Arnott)	291
78.	Section of Ovarian Tumor showing Alveolar Structure (R. B.)	292
79.	Ovaries Affected with Proliferating or Papillary Disease (R. B.)	293
80.	Dermoid Cyst of Ovary (R. B.)	296
81.	Hook to Extract Hair, etc., from Dermoid Cysts (R. B.)	299
82.	Gestation in Left Fallopian Tube (R. B.)	304
83.	Gestation in Rudimentary Horn of Uterus (Luschka)	306
84.	Tubo-Uterine Gestation (Poppel)	326
85.	Inflammation of Fallopian Tubes (Hooper)	332
86.	Dropsy of Fallopian Tube (R. B.)	337
87.	Ovarian Tumor and Pregnancy (R. B.)	358
88, 89, 90.	Diagrams: Diagnosis of Ascites and Ovarian Dropsy (R. B.)	364, 365
91.	Microscopic Character of Ovarian Fluid (Thomas M. Drysdale)	374
92.	Uterus Strongly Developed to Right (Tiedemann)	405
93.	Double or Bicornute Uterus (St. Thomas's) (R. B.)	405
94.	Bicornute Uterus (R. B.)	406
95.	Bicornute Uterus. Septum dividing Cavity (Guy's) (R. B.)	407
96.	Double Uterus and Vagina (Guy's) (R. B.)	408
97.	Transverse Section of Vaginæ of preceding figure (R. B.)	409
98.	Atrophy of the Uterus and Ovaries (Carswell)	411
99.	Stenosis; Atresia; Dilatation of Uterus (R. B.)	413

FIG.		PAGE
100.	Representing Bulk of Uterus arrested in its Involution after Pregnancy, and also the Bulk it ought to attain (Simpson)	418
101.	Congestion of Vaginal-Portion of Cervix after Labor (R. B.)	427
102.	Showing Loss of Epithelium, leaving Villi of Os Uteri bare (Hassall and Tyler Smith)	428
103.	Epithelial Abrasion after Labor (R. B.)	429
104.	Marion Sims's Curette	483
105.	Récamier's Curette	483
106.	Collar of Hard Inflammatory Effusion encircling Cervix Uteri (R. B.)	504
107.	Remains of a Retro-Uterine Hæmatocele (Guy's) (R. B.)	517
108.	Retro-Uterine Hæmatocele from a Diseased Ovary (R. B.)	521
109.	Retro-Uterine Hæmatocele (R. B.)	523
110.	Sectional View of the Parts in Retro-Uterine Hæmatocele (R. B.)	524
111.	Illustrating Relative Position of the Uterus and Rectum and Intervening Cyst (R. B.)	538
112.	Complete Procidentia Uteri (R. B.)	542
113.	Illustrating Successive Stages of Prolapsus of Uterus (R. B.)	543
114.	Prolapsus Uteri (R. B.)	544
115.	One Form of Hypertrophy of Vaginal-Portion of Cervix Uteri (R. B.)	546
116.	Appearance of same after Complete Cicatrization from Amputation by the Galvanic Cautery (R. B.)	547
117.	Eversion of Mucous Membrane of Cervix Uteri (R. B.)	548
118.	Prolapsus of Uterus, with Hypertrophic Elongation and Complete Eversion of Vagina (London Hospital) (R. B.)	549
119.	Hypertrophy with Procidentia of Vaginal-Portion of Cervix Uteri (R. B.)	550
120.	Early Stage of Hypertrophic Elongation of the Cervix Uteri (R. B.)	551
121.	Advanced Hypertrophic Elongation of Cervix Uteri (R. B.)	552
122.	Hypertrophic Elongation of both Supra and Infra Vaginal-Portions of Cervix Uteri (King's College)	553
123.	Great Hypertrophic Elongation of Supra Vaginal-Portion of Cervix Uteri (St. Bartholomew's) (R. B.)	554
124.	Hypertrophic Elongation of Uterus (St. Thomas's) (R. B.)	556
125.	Diagram showing how Hypertrophic Elongation of the Anterior Lip of the Os Uteri is caused by Pressure under Retroflexion (R. B.)	558
126.	The Cup-and-Stem Pessary (R. B.)	575
127.	Scott's Pessary	576
128.	Diagrams Illustrating Versions and Flexions of the Uterus (R. B.)	585
129.	Graily Hewitt's "Cradle-Pessary" (R. B.)	592
130.	Extreme Anteflexion of Uterus (R. B.)	594
131.	Anteflexion of Uterus (R. B.)	595
132.	Diagnosis of Anteflexion of Uterus (R. B.)	596
133.	Mode of applying Hodge or Lever Pessary for Retroversion or Retroflexion (R. B.)	602
134.	Second Stage in Application of the Hodge (R. B.)	603
135.	Third and Final Stage in Application of the Hodge (R. B.)	604
136.	Extreme Retroflexion of the Uterus (R. B.)	607
137.	Diagnosis of Retroflexion by the Vaginal Touch (R. B.)	611
138.	Diagnosis and Reposition of the Retroflected Uterus by the Sound (R. B.)	612
139, 140.	Reduction of Retroflected Uterus by Finger (R. B.)	613, 614
141.	Reduction of Retroflected Uterus by Sound (R. B.)	615
142.	Occasional Vicious Action of the Hodge in Extreme Retroflexion of Uterus (R. B.)	618
143.	Combined Action of Intra-Uterine Pessary and the Hodge (R. B.)	619
144.	Illustrating Three Degrees of Inversion of Uterus (Crosse)	621
145.	Extreme Inversion in Section (Crosse)	621

FIG.		PAGE
146.	Specimen of Inverted Uterus (Crosse)	622
147.	Barnes's Operation for Inversion of Uterus (R. B.)	637
148.	Barnes's Elastic Pessary for Reduction of Chronic Inversion of the Uterus (R. B.)	639
149.	Structure of Fibroid of Uterus (H. Arnott)	643
150.	Conglomerate of Fibroid Tumors of Uterus (St. Thomas's) (R. B.)	646
151.	Sub-peritoneal Fibroid Tumor of Uterus (London Hospital) (R. B.)	646
152.	Fibroid Tumor of Uterus (R. B.)	647
153.	Uterus with two large Fibroid Tumors (St. George's) (R. B.)	649
154.	Fibroid Tumors of the Uterus (St. George's) (R. B.)	651
155.	Fibroid or Muscular Tumor of Uterus (St. Thomas's) (R. B.)	652
156.	Erectile Tumor of Uterus (Carswell)	655
157.	Ossified or Cretified Fibroid Tumor of Uterus (St. Thomas's) (R. B.)	657
158.	Large Fibroid Tumors, one in the Anterior, the other in the Posterior Wall of Uterus (St. George's) (R. B.)	679
159.	Fibroid Polypus filling Cavity of Uterus (College of Surgeons) (R. B.)	682
160.	Fibroid Polypus extruded from Uterus (College of Surgeons) (R. B.)	683
161.	Mucous or Glandular Cervical Polypus (R. B.)	686
162.	Section of a "Channelled" Glandular Polypus (Arnott)	686
163.	Uterus with Fibroid Polypus attached to Upper Wall and ligatured (St. Bartholomew's) (R. B.)	693
164.	Operation for removing Polypus Uteri by Wire Écraseur (R. B.)	695
165.	Tubercular Disease of Uterus (Guy's) (R. B.)	700
166.	Phthisis Uteri (Carswell)	701
167.	Cancer of Uterus (St. Bartholomew's) (R. B.)	706
168.	Uterus enlarged from Infiltration with Encephaloid Matter (St. Thomas's) (R. B.)	709
169.	Uterus lower two-thirds destroyed by Ulceration (St. Bartholomew's) (R. B.)	710
170.	Cancer eating away lower half of Uterus (St. Thomas's) (R. B.)	711
171.	Pavement-Epithelioma of Uterus (Lancereaux)	712
172.	Malignant Disease of Uterus (St. George's) (R. B.)	713
173.	Cauliflower Growth of the Cervix Uteri (Arnott)	714
174.	Spindle-cell Sarcoma (Arnott)	715
175.	Intra-Uterine Speculum (R. B.)	737
176.	Cicatricial Band Binding Os Uteri of Vagina (R. B.)	747
177.	Showing the Relations of Ureters to Vesico-Vaginal Fistula (St. Thomas's) (R. B.)	749
178.	Diagram representing "Perineal Body" (modified after Thomas) (R. B.)	755
179.	Representing the Split Sphincter Ani and the Course of the Suture necessary to bring the ends of the Sphincter together (Thomas)	756
180.	Showing the Ring of Sphincter Ani nearly restored by drawing up Suture passed as in preceding figure (Thomas)	756
181.	Showing Wound and Application of Sutures in Restoration of Perineum (Thomas)	757

HENRY C. LEA, Philadelphia.

TITLE AND CONTENTS

OF

PLAYFAIR'S

SCIENCE AND PRACTICE

OF

MIDWIFERY.

WITH NOTES AND ADDITIONS

BY

ROBERT P. HARRIS, M.D.

In one Octavo Volume of about 650 pages. Price $4 in Cloth: $5 in Leather.

HENRY C. LEA, Philadelphia.

WORKS ON MIDWIFERY AND GYNÆCOLOGY.

A SYSTEM OF MIDWIFERY, INCLUDING THE DISEASES OF PREGNANCY AND THE PUERPERAL STATE. By WILLIAM LEISHMAN, M.D., Regius Professor of Midwifery in the University of Glasgow, etc. Second American, from the second and revised English edition, with additions by JOHN S. PARRY, M.D., Obstetrician to the Philada. Hospital, etc. In 1 large and very handsome 8vo volume of over 700 pages, with about two hundred illustrations. Cloth, $5; leather, $6. (*Just Issued.*)

THE PRINCIPLES AND PRACTICE OF OBSTETRICS. By HUGH L. HODGE, M.D., Emeritus Professor of Midwifery, etc., in the University of Pennsylvania, etc. Illustrated with lithographic plates containing one hundred and fifty-nine figures from original photographs, and with numerous wood-cuts. In one large and beautifully printed quarto volume of 550 double-columned pages, strongly bound in cloth, $14.

A PRACTICAL TREATISE ON THE DISEASES OF WOMEN. By T. GAILLARD THOMAS, M.D., Professor of Obstetrics, etc., in the College of Physicians and Surgeons, N. Y., etc. Fourth edition, enlarged and thoroughly revised. In 1 large and handsome octavo volume of 800 pages, with 191 illustrations: cloth, $5; leather, $6. (*Just Issued.*)

A CLINICAL EXPOSITION OF THE MEDICAL AND SURGICAL DISEASES OF WOMEN. By ROBERT BARNES, M.D., F.R.C.P., Obstetric Physician to St. Thomas's Hospital, etc. Second American, from the second enlarged and revised English edition. In one handsome octavo volume of 784 pages, with 181 illustrations; cloth, $4 50; leather, $5 50. (*Just Ready.*)

The call for a new edition of Dr. Barnes' work on the Diseases of Females has encouraged the author to make it even more worthy of the favor of the profession than before. By rearrangement and careful pruning, space has been found for a new chapter on the Gynæcological Relations of the Bladder and Bowel Disorders, without increasing the size of the book, while many new illustrations have been introduced where experience has shown them to be needed. It is therefore hoped that the volume will be found to reflect thoroughly and accurately the present condition of gynæcological science.

THE PRINCIPLES AND PRACTICE OF GYNÆCOLOGY. For the Use of Students and Practitioners of Medicine. By THOMAS ADDIS EMMET, M.D., Surgeon to the Woman's Hospital, New York, etc. In one handsome octavo volume of over 800 pages, with numerous illustrations. (*In press.*)

Dr. Emmet is so widely known as among the most eminent of those who have made gynæcology a peculiarly American science that the profession cannot fail to welcome a work in which he has condensed the results of his long and extensive experience. He has sought to consider the whole subject of the diseases peculiar to females in a manner which will adapt the volume, not only to the wants of the student as a text-book, but to those of the practitioner as an aid in the emergencies of daily practice. A special feature of the work will be found in the numerous condensed tables, which convey at a glance, and within the narrowest compass, the conclusions to be drawn from the many thousand cases which have passed under the care of the author. With trifling exceptions, the illustrations are all original, and the volume will be found in every point of typographical execution worthy of the distinguished position which is confidently anticipated for it.

A MANUAL OF THE DISEASES PECULIAR TO WOMEN. By JAMES R. CHADWICK, A.M., M.D. In one neat volume, royal 12mo., with illustrations. (*Preparing.*)

LECTURES ON THE DISEASES OF WOMEN. By CHARLES WEST, M.D. Third American, from the third London edition. In one neat octavo volume of about 550 pages; cloth, $3 75; leather, $4 75.

ON DISEASES PECULIAR TO WOMEN; including Displacements of the Uterus. By HUGH L. HODGE, M.D., Emeritus Professor of Obstetrics, etc., in the University of Pennsylvania. With original illustrations. Second edition, revised and enlarged. In one beautifully printed octavo volume of 531 pages; cloth, $4 50.

EXTRA-UTERINE PREGNANCY: ITS CLINICAL HISTORY, DIAGNOSIS, PROGNOSIS, AND TREATMENT. By JOHN S. PARRY, M.D., Obstetrician to the Philadelphia Hospital, Vice-President of the Obstetrical Society of Philadelphia. In one handsome octavo volume. Cloth, $2 50. (*Lately Issued.*)

A COMPLETE TREATISE ON THE PATHOLOGY AND TREATMENT OF CHILDBED, for Students and Practitioners. By F. WINCKEL, Professor and Director of the Gynæcological Clinic in the University of Rostock. Translated, with the consent of the author, from the second German edition, by JAMES READ CHADWICK, M.D. In one octavo volume. Cloth, $4 00. (*Lately Issued.*)

HENRY C. LEA, Philadelphia.

A TREATISE

ON

THE SCIENCE AND PRACTICE

OF

MIDWIFERY.

BY

W. S. PLAYFAIR, M.D., F.R.C.P.,

PHYSICIAN-ACCOUCHEUR TO H. I AND R. H. THE DUCHESS OF EDINBURGH; PROFESSOR OF OBSTETRIC MEDICINE IN KING'S COLLEGE; PHYSICIAN FOR THE DISEASES OF WOMEN AND CHILDREN TO KING'S COLLEGE HOSPITAL; CONSULTING PHYSICIAN TO THE EVELINA HOSPITAL FOR CHILDREN; EXAMINER IN MIDWIFERY TO THE UNIVERSITY OF LONDON; LATE EXAMINER IN MIDWIFERY TO THE ROYAL COLLEGE OF PHYSICIANS; AND VICE-PRESIDENT OF THE OBSTETRICAL SOCIETY OF LONDON.

WITH NOTES AND ADDITIONS

BY

ROBERT P. HARRIS, M.D.

SECOND AMERICAN

FROM THE

SECOND AND REVISED LONDON EDITION.

WITH TWO PLATES AND ONE HUNDRED AND EIGHTY-TWO ILLUSTRATIONS.

PHILADELPHIA:

HENRY C. LEA.

1878.

TO

T. GAILLARD THOMAS, M.D.,

PROFESSOR OF OBSTETRICS
IN THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

DEAR DR. THOMAS:

I am desirous of marking my gratitude for the kind reception of my book in America, where so much valuable obstetric work has been done, by associating with the Second Edition the name of one whose many important contributions to the branch of Medicine of which it treats have gained for him so great and so well-deserved a reputation. I could wish that it were more worthy of the honor you do me in allowing me to dedicate it to you; but, such as it is, I beg you to accept it as a mark of the high esteem in which you, as well as your fellow laborers in obstetric science, are held in the mother country.

I am, very faithfully yours,

W. S. PLAYFAIR.

31 GEORGE STREET, HANOVER SQUARE, 1878.

Entered according to Act of Congress, in the year 1878, by
HENRY C. LEA,
in the Office of the Librarian of Congress, at Washington.

COLLINS, PRINTER.

AMERICAN PUBLISHER'S NOTICE.

In reprinting this work from the second London edition, the position which it has assumed in this country as an authoritative text-book seemed to call for such additions as would render it more completely suited to the wants of the American student.

A careful scrutiny on the part of the Editor has shown that but little was required for this purpose; the work, though condensed, being very complete and accurate. With the exception of numerous short foot-notes, therefore, his additions have been confined to points in which the experience and practice of American obstetricians differ from those of England, and to one or two matters of recent interest. These are chiefly the Cæsarean Section; the varieties of forceps, and their use in the dorsal decubitus; dystocia from tetanoid uterine constriction; and the intra-venous injection of milk, as a substitute for the transfusion of blood. All additions will be found distinguished from the text by inclosure in brackets [—].

PHILADELPHIA, September, 1878.

PREFACE TO THE SECOND EDITION.

In presenting a Second Edition the Author has very gratefully to acknowledge the favorable reception which has been accorded by the Profession to his work, as indicated by the rapid exhaustion of an unusually large impression. He trusts that the revision to which the book has been subjected may render it still more worthy of being used as a guide in the study of the important and responsible branch of medicine of which it treats. He has again to tender his cordial thanks to his colleague, Dr. HAYES, for the trouble he has taken in assisting him in passing it through the press.

31 GEORGE STREET, HANOVER SQUARE,
March, 1878.

PREFACE TO THE FIRST EDITION.

THOSE who have studied the progress of Midwifery know that there is no department of medicine in which more has been done of late years, and none in which modern views of practice differ more widely from those prevalent only a short time ago. The Author's object has been to place in the hands of his readers an epitome of the science and practice of midwifery which embodies all recent advances. He is aware that on certain important points he has recommended practice which not long ago would have been considered heterodox in the extreme, and which, even now, will not meet with general approval. He has, however, the satisfaction of knowing that he has only done so after very deliberate reflection, and with the profound conviction that such changes are right, and that they will stand the test of experience. He has endeavored to dwell especially on the practical part of the subject, so as to make the work a useful guide in this most anxious and responsible branch of the profession. It is admitted by all, that emergencies and difficulties arise more often in this than in any other branch of practice; and there is no part of the practitioner's work which requires more thorough knowledge or greater experience. It is, moreover, a lamentable fact that students generally leave their schools more ignorant of obstetrics than any other subject. So long as the absurd regulations exist, which oblige the lecturer on midwifery to attempt the impossible task of teaching obstetrics in a short three months' course—an absurdity which has over and over again been pointed out—such must of necessity be the case. This must be the Author's excuse for dwelling on many topics at greater

length than some will doubtless think their importance merits since he desires to place in the hands of his students a work which may in some measure supply the inevitable defects of his lectures.

Many of the illustrations are copied from previous authors, while some are original. The following quotation from the preface to Tyler Smith's "Manual of Obstetrics" will explain why the source of the copied woodcuts has not been in each instance acknowledged: "When I began to publish, I determined to give the authority for every woodcut copied from other works; I soon found, however, that obstetric authors of all countries, from the time of Mauriceau downwards, had copied each other so freely without acknowledgment as to render it difficult or impossible to trace the originals."

The Author has to express his acknowledgments to many friends for their kind assistance by the loan of illustrations and otherwise, and more especially to his colleague, Dr. HAYES, for his valuable aid in passing the work through the press.

31 GEORGE STREET, HANOVER SQUARE,
March, 1876.

CONTENTS.

PART I.

ANATOMY AND PHYSIOLOGY OF THE ORGANS CONCERNED IN PARTURITION.

CHAPTER I.

THE BONY PELVIS.

PAGE

Its importance—Formation of Pelvis—The os innominatum: its three divisions—Separation between the True and False Pelvis—the Sacrum and Coccyx—Mechanical relations of the Sacrum—Pelvic articulations and ligaments—Movements of the Pelvic joints—The Pelvis as a whole—Differences in the two sexes—Measurements of the Pelvis—Its diameters, planes, and axes—Development of the Pelvis—Soft parts in connection with the Pelvis 25

CHAPTER II.

THE FEMALE GENERATIVE ORGANS.

Division according to Function: 1. External or Copulative; 2. Internal or Formative Organs—Mons Veneris—Labia majora and minora—The Clitoris—The vestibule and orifice of Urethra—Passing of the female catheter—Orifice of Vagina—The Hymen—The glands of the Vulva—The Perineum—The Vagina—The Uterus; its position and anatomy—The ligaments of the Uterus—The Parovarium—The Fallopian Tubes—The Ovaries—The Graafian Follicles, and the Ova 41

CHAPTER III.

OVULATION AND MENSTRUATION.

Functions of the Ovary—Changes in the Graafian Follicle: 1. Maturation; 2. Escape of the Ovum—Formation of the Corpus Luteum—Quality and source of the Menstrual blood—Theory of Menstruation—Purpose of the Menstrual loss—Vicarious Menstruation—Cessation of Menstruation 71

PART II.

PREGNANCY.

CHAPTER I.

CONCEPTION AND GENERATION.

PAGE

The Semen—Site and mode of Impregnation—Changes in the Ovum—Cleavage of the Yelk—The Decidua and its formation—Formation of the Amnion—The Umbilical Vesicle and Allantois—The Liquor Amnii and its uses—The Chorion—The Placenta: its formation, anatomy, and functions 84

CHAPTER II.

THE ANATOMY AND PHYSIOLOGY OF THE FŒTUS.

Appearance of the Fœtus at various stages of development—Anatomy of the Fœtal Head—The Sutures and Fontanelles—Influence of Sex and Race on the Fœtal Head—Position of the Fœtus in utero—Functions of the Fœtus—The Fœtal Circulation 107

CHAPTER III.

PREGNANCY.

Changes in the form and dimensions of the Uterus—Changes in the Cervix—Changes in the texture of the Uterine Tissues, the Peritoneal, Muscular, and Mucous Coats—General modifications in the Body produced by Pregnancy . 123

CHAPTER IV.

SIGNS AND DIAGNOSIS OF PREGNANCY.

Signs of a fruitful Conception—Cessation of Menstruation—Sympathetic disturbances: Morning Sickness, etc.—Mammary Changes—Enlargement of the Abdomen—Quickening—Intermittent Uterine contractions—Vaginal Signs of Pregnancy—Ballottement, etc.—Auscultatory Signs of Pregnancy—Fœtal Pulsations—Uterine Souffle, etc. 133

CHAPTER V.

THE DIFFERENTIAL DIAGNOSIS OF PREGNANCY—SPURIOUS PREGNANCY—DURATION OF PREGNANCY—SIGNS OF RECENT DELIVERY.

Adipose enlargement of the Abdomen—Distension of the Uterus by retained Menses, etc.—Congestive enlargement of Uterus—Ascites—Uterine and Ovarian Tumors—Spurious Pregnancy: its Causes, Symptoms, and Diagnosis—The duration of Pregnancy—Sources of Fallacy—Methods of Predicting Date of Delivery—Protraction of Pregnancy—Signs of recent Delivery 148

CHAPTER VI.

ABNORMAL PREGNANCY, INCLUDING MULTIPLE PREGNANCY, SUPER-FŒTATION, EXTRA-UTERINE FŒTATION, AND MISSED LABOR.

PAGE

Plural Births, their frequency: Relative frequency in different Countries; Causes, etc.—Super-fœtation and Super-fecundation—Nature—Explanation—Objections to admission of such cases—Their possibility admitted—Extra-Uterine Pregnancy—Classification—Causes—Tubal Pregnancies—Changes in the Fallopian Tubes—Condition of Uterus—Progress and Termination—Diagnosis—Treatment—Abdominal Pregnancy: Description; Diagnosis; Treatment—Missed Labor: its Symptoms, Causes, and Treatment 157

CHAPTER VII.

THE DISEASES OF PREGNANCY.

Some only Sympathetic, others Mechanical or Complex in their Origin—Derangements of the Digestive Organs: Excessive Nausea and Vomiting; Diarrhœa; Constipation; Hemorrhoids; Ptyalism; Toothache and Caries of Teeth; Affections of Respiratory Organs; Dyspnœa, etc.—Palpitation—Syncope—Anæmia and Chlorosis—Albuminuria 183

CHAPTER VIII.

THE DISEASES OF PREGNANCY (*continued*).

Disorders of the Nervous System: Insomnia; Headaches and Neuralgia; Paralysis; Chorea; Disorders of the Urinary Organs; Retention of Urine; Irritability of the Bladder; Incontinence of Urine; Phosphatic Deposits; Leucorrhœa; Effects of Pressure; Laceration of Veins; Displacements of the Gravid Uterus: Prolapse, Anteversion, Retroversion—Diseases coexisting with Pregnancy; Eruptive Fevers; Smallpox, Measles, Scarlet Fever, Continued Fever; Phthisis; Cardiac Disease; Syphilis; Icterus; Carcinoma; Pregnancy complicated with Ovarian and Fibroid Tumors 196

CHAPTER IX.

PATHOLOGY OF THE DECIDUA AND OVUM.

Pathology of the Decidua—Hydrorrhea Gravidarum—Pathology of the Chorion; Vesicular Degeneration, Myxoma Fibrosum—Pathology of the Placenta: Blood Extravasations, Fatty Degeneration, etc.—Pathology of the Umbilical Cord—Pathology of the Amnion, Hydramnios; Deficiency of Liquor Amnii, etc.—Pathology of the Fœtus: Blood Diseases transmitted through the Mother, Smallpox, Measles, and Scarlet Fever, Intermittent Fevers, Lead-poisoning, Syphilis, —Inflammatory Diseases—Dropsies—Tumors—Wounds and Injuries of the Fœtus—Intrauterine Amputations—Death of the Fœtus 212

CHAPTER X.

ABORTION AND PREMATURE LABOR.

PAGE

Importance and Frequency—Definition and Classification—Frequency—Recurrence—Causes—Causes Referable to Fœtus—Changes in a Dead Ovum retained in Utero—Extravasations of Blood—Moles, etc.—Causes depending on Maternal State—Syphilis: Causes acting through Nervous System, Physical Causes, etc.—Causes depending on Morbid States of Uterus—Symptoms—Preventive Treatment—Prophylactic Treatment—Treatment when Abortion is inevitable—After-Treatment 229

PART III.

LABOR.

CHAPTER I.

THE PHENOMENA OF LABOR.

Causes of Labor—Mode in which the Expulsion of the Child is effected—The Uterine contraction—Mode in which the Dilatation of the Cervix is effected—Rupture of the Membranes—Character and source of Pains during Labor—Effect of Pains on Mother and Fœtus—Division of Labor into Stages—Preparatory Stage—False Pains—First Stage—Second Stage—Third Stage—Mode in which the Placenta is expelled—Duration of Labor 242

CHAPTER II.

MECHANISM OF DELIVERY IN HEAD PRESENTATIONS.

Importance of Subject—Frequency of Head Presentations—The different positions of the Head—First Position—Division of Mechanical Movements into Stages—Flexion—Rotation—Extension—External Rotation—Second Position—Third Position—Fourth Position—Caput Succedaneum—Alteration in shape of Head from moulding 255

CHAPTER III.

MANAGEMENT OF NATURAL LABOR.

Preparatory Treatment—Dress of Patient during Pregnancy—The Obstetric Bag—Duties on first visiting Patient—False Pains—Their Character and Treatment—Vaginal Examination—The Position of Patient—Artificial Rupture of Membranes—Treatment of Propulsive Stage—Relaxation of the Perineum—Treatment of Lacerations—Expulsion of Child—Promotion of Uterine Contraction—Ligature of the Cord—Management of the Third Stage of Labor—Application of the Binder—After-Treatment 268

CHAPTER IV.

ANÆSTHESIA IN LABOR.

PAGE

Agents employed—Chloral: its Object and Mode of administration—Ether—Chloroform: its Use, Objections to, and Mode of administration . . . 282

CHAPTER V.

PELVIC PRESENTATIONS.

Frequency—Causes—Prognosis to Mother and Child—Diagnosis by Abdominal Palpation and by Vaginal Examination—Differential Diagnosis of Breech, Knee, and Feet—Mechanism—Treatment—Management of Impacted Breech Presentations 286

CHAPTER VI.

PRESENTATIONS OF THE FACE.

Erroneous Views formerly held on the Subject—Frequency—Mode of Production—Diagnosis—Mechanism—Four Positions of the Face—Description of Delivery in First Face Position—Mento-Posterior Positions in which Rotation does not take place—Prognosis—Treatment 297

CHAPTER VII.

DIFFICULT OCCIPITO-POSTERIOR POSITIONS.

Causes of Face to Pubis Delivery—Mode of Treatment—Upward Pressure on Forehead—Downward Traction on Occiput—Use of Forceps—Peculiarities of Forceps Delivery 307

CHAPTER VIII.

PRESENTATIONS OF SHOULDER, ARM, OR TRUNK—COMPLEX PRESENTATIONS—PROLAPSE OF THE FUNIS.

Position of the Fœtus—Division into Dorso-Anterior and Dorso-Posterior Positions—Causes—Prognosis and Frequency—Diagnosis—Mode of distinguishing Position of Child—Differential Diagnosis of Shoulder, Elbow, and Hand—Mechanism—The Two possible Modes of Delivery by the Natural Powers—Spontaneous Version—Spontaneous Evolution—Treatment—Complex Presentation: Foot or Hand with Head, Hand and Feet together—Dorsal Displacement of the Arm—Prolapse of the umbilical Cord—Frequency—Prognosis—Causes—Diagnosis—Postural Treatment—Artificial Reposition—Treatment when Reposition fails 309

CHAPTER IX.

PROLONGED AND PECIPITATE LABORS.

Evil effects of Prolonged Labor—Influence of the Stage of Labor in Protraction—Delay in First Stage rarely serious—Temporary Cessation of Pains—Symptoms

PAGE

of Protraction in the Second Stage—State of the Uterus in Protracted Labor—Cases of Protraction due to Morbid condition of the expulsive powers—Causes of Protraction—Treatment—Oxytocic remedies—Ergot of Rye, etc.—Manual Pressure—Instrumental Delivery—Precipitate Labor—Its Causes and Treatment . 324

CHAPTER X.

LABOR OBSTRUCTED BY FAULTY CONDITION OF THE SOFT PARTS.

Rigidity of the Cervix: its Causes, Effects, and Treatment—Bands and Cicatrices in the Vagina—Extreme rigidity of the Perineum—Labor complicated with Tumor—Vaginal Cystocele—Calculus—Hernial Protrusions—Œdema of Vulva—Hæmatic Effusions, etc. 339

CHAPTER XI.

DIFFICULT LABOR DEPENDING ON SOME UNUSUAL CONDITION OF THE FŒTUS.

Plural Births, Treatment of—Locked Twins—Conjoined Twins—Intra-uterine Hydrocephalus: Its Dangers, Diagnosis, and Treatment—Other dropsical Effusions—Fœtal Tumors—Excessive Development of Fœtus 353

CHAPTER XII.

DEFORMITIES OF THE PELVIS.

Classification—Causes of Pelvic Deformity—Rickets and Osteo-malacia—The Equally enlarged Pelvis—The Equally contracted Pelvis—The Undeveloped Pelvis—Masculine or Funnel-shaped Pelvis—Contraction of Conjugate Diameter of the Brim—Figure-of-Eight deformity—Spondylolithesis—Narrowing of the Oblique Diameters—Obliquely contracted Pelvis—Kyphotic Pelvis—Robert's Pelvis—Deformity from old-standing Hip-joint disease—Deformity from Tumors, Fractures, etc.—Effects of Contracted Pelvis on Labor—Risks to the Mother and Child—Mechanism of Delivery in Head Presentation; *a*, in Contracted Brim; *b*, in Generally contracted Pelvis—Diagnosis—External Measurements—Internal Measurements—Mode of estimating the Conjugate diameter of the brim—Mode of Diagnosing the Oblique Pelvis—Treatment—The Forceps—Turning—The Induction of Premature Labor—Induction of Abortion 366

CHAPTER XIII.

HEMORRHAGE BEFORE DELIVERY: PLACENTA PRÆVIA.

Definition—Causes—Symptoms—Sources and Causes of Hemorrhage—Prognosis—Treatment 388

CHAPTER XIV.

HEMORRHAGE FROM SEPARATION OF A NORMALLY SITUATED PLACENTA.

Causes and Pathology—Symptoms and Diagnosis—Prognosis—Treatment . . 399

CHAPTER XV.

HEMORRHAGE AFTER DELIVERY.

PAGE

Its frequency—Generally a preventable accident—Causes—Nature's method of Controlling Hemorrhage—Uterine Contraction—Thrombosis—Secondary Causes of Hemorrhage—Irregular Uterine Contraction—Placental Adhesions—Constitutional Predisposition to Flooding—Symptoms—Preventive treatment—Curative treatment—Secondary post-partum Hemorrhage—Its Causes and Treatment 402

CHAPTER XVI.

RUPTURE OF THE UTERUS, ETC.

Its Fatality—Seat of Rupture—Causes, predisposing and exciting—Symptoms—Prognosis—Treatment: when the Fœtus remains in Utero; when the Fœtus has escaped from the Uterus—Recapitulation—Lacerations of the vagina—Vesico and Recto-vaginal Fistulæ—Their mode of Formation—Treatment . . . 419

CHAPTER XVII.

INVERSION OF THE UTERUS.

Division into Acute and Chronic forms—Description—Symptoms—Diagnosis—Mode of production—Treatment 429

PART IV.

OBSTETRIC OPERATIONS.

CHAPTER I.

INDUCTION OF PREMATURE LABOR.

History—Objects—May be performed either on account of the Mother or Child—Modes of Inducing Labor—Puncture of Membranes—Administration of Oxytocics—Means acting indirectly on the Uterus—Dilatation of Cervix—Separation of Membranes—Vaginal and Uterine douches—Introduction of Flexible Catheter 435

CHAPTER II.

TURNING.

History—Turning by External Manipulation—Object and Nature of the Operation—Cases Suitable for the operation—Statistics and Dangers—Method of performance—Cephalic Version—Method of performance—Podalic Version—Position of Patient—Administration of Anæsthetics—Period when the operation should be undertaken—Choice of Hand to be used—Turning by Bi-polar method—Turning when the Hand is introduced into the Uterus—Turning in Abdomino-anterior Positions—Difficult cases of Arm Presentation . . . 442

CHAPTER III.

THE FORCEPS.

PAGE

Frequent use of the Forceps in Modern practice—Description of the Instrument—The Short Forceps—Its Varieties—The Long Forceps—Suitable to all cases alike—Action of the Instrument—Its power as a Tractor, Lever, and Compressor—Preliminary considerations before operation—Use of Anæsthetics—Description of the Operation—Low Forceps Operation—High Forceps Operation—Possible Dangers of Forceps Delivery—Possible Risks to the Child . . . 458

CHAPTER IV.

THE VECTIS.—THE FILLET.

Nature of the Vectis—Its use as a Lever or Tractor—Cases in which it is applicable—Its use as a Rectifier of Malpositions—The Fillet—Nature of the Instrument—Objections to its use 482

CHAPTER V.

OPERATIONS INVOLVING THE DESTRUCTION OF THE FŒTUS.

Their Antiquity and History—Division of Subject—Nature of Instruments employed — Perforator — Crotchet—Craniotomy Forceps—Cephalotribe—Forceps-saw—Écraseur—Cases requiring Craniotomy—Method of Perforation—Extraction of the Head—Comparative merits of Cephalotripsy and Craniotomy—Extraction by the Craniotomy Forceps—Extraction of the Body—Embryotomy—Decapitation and Evisceration 484

CHAPTER VI.

THE CÆSAREAN SECTION—SYMPHYSEOTOMY AND LAPARO-ELYTROTOMY.

History of the Operation—Statistics—Results to Mother and Child—Causes requiring the Operation—Post-mortem Cæsarean Section—Causes of Death after the Cæsarean Section—Preliminary Preparations—Description of the Operation—Subsequent Management—Substitutes for the Cæsarean Section—Symphyseotomy—Laparo-elytrotomy 499

CHAPTER VII.

THE TRANSFUSION OF BLOOD.

History—Nature and Object of the Operation—Use of Blood taken from the Lower Animals—Difficulties from Coagulation of Fibrine—Modes of Obviating them—Immediate Transfusion—Addition of Chemical Agents to prevent Coagulation—Defibrination of the Blood—Statistical Results—Possible Dangers of the Operation—Cases suitable for Transfusion—Description of the Operation—Effects of Successful Transfusion—Secondary Effects of Transfusion. 514

PART V.

THE PUERPERAL STATE.

CHAPTER I.

THE PUERPERAL STATE AND ITS MANAGEMENT.

PAGE

Importance of Studying the Puerperal State—The Mortality of Childbirth—Alterations in the Blood after Delivery—Condition after Delivery—Nervous Shock—Fall of the Pulse—The Secretions and Excretions—Secretion of Milk—Changes in the Uterus after Delivery—The Lochia—The After-pains—Management of Women after Delivery—Treatment of Severe After-pains—Diet and Regimen 523

CHAPTER II.

MANAGEMENT OF THE INFANT, LACTATION, ETC.

Commencement of Respiration after the Birth of the Child—Apparent Death of the new-born Child—Its Treatment—Washing and Dressing the Child—Application of the Child to the Breast—The Colostrum and its Properties—Secretion of Milk—Importance of Nursing—Selection of a Wet-nurse—Management of Lactation—Diet and Regimen of Nursing Women—Period of Weaning—Disorders of Lactation—Means of Arresting the Secretion of Milk—Defective Secretion of Milk—Depressed Nipples—Fissures and Excoriations of the Nipples—Excessive Flow of Milk—Mammary Abscess—Hand-feeding—Causes of Mortality in Hand-feeding—Various kinds of Milk—Method of Hand-feeding . 533

CHAPTER III.

PUERPERAL ECLAMPSIA.

Its Doubtful Etiology—Premonitory Symptoms—Symptoms of the attack—Condition between the Attacks—Relation of the attacks to Labor—Results to Mother and Child—Pathology—Treatment—Obstetric Management . . . 550

CHAPTER IV.

PUERPERAL INSANITY.

Classification—Proportion of Various forms—Insanity of Pregnancy—Predisposing Causes—Period of Pregnancy at which it occurs—Type of Insanity—Prognosis—Transient Mania during Delivery—Puerperal Insanity (Proper)—Type of Insanity—Causes—Theory of its dependence on a Morbid State of the Blood—Objections to the theory—Prognosis—Post-mortem signs—Duration—Insanity of Lactation—Type—Symptoms—Of Mania—Of Melancholia—Treatment—Question of Removal to Asylum—Treatment during Convalescence . 559

CHAPTER V.

PUERPERAL SEPTICÆMIA.

PAGE

Differences of opinion—Confusion from this cause—Modern view of this Disease—History—Its Mortality in Lying-in Hospitals—Numerous Theories as to its Nature—Theory of Local Origin—Theory of an Essential Zymotic Fever—Theory of its identity with Surgical Septicæmia—Nature of this view—Channels through which Septic Matter may be absorbed—Character and Origin of Septic Matter often obscure—Division into Auto-genetic and Hetero-genetic cases—Sources of Self-infection—Sources of Hetero-genetic Infection—Influence of Cadaveric Poison—Infection from Erysipelas—Infection from other Zymotic Diseases—Contagion from other Puerperal Patients—Mode in which the Poison may be conveyed to the Patient—Conduct of the Practitioner in relation to the Disease—Nature of the Septic Poison—Local changes resulting from the absorption of Septic Material—Channels through which Systemic Infection is produced—Pathological Phenomena observed after general Blood Infection—Four principal Types of Pathological Change—Intense cases without marked Post-mortem Signs—Cases characterized by Inflammation of the Serous Membranes—Cases characterized by the impaction of Infected Emboli, and Secondary Inflammation and Abscess—Description of the Disease—Duration—Varieties of Symptoms in different cases—Symptoms of Local Complications—Treatment . 570

CHAPTER VI.

PUERPERAL VENOUS THROMBOSIS AND EMBOLISM.

Puerperal Thrombosis and its Results—Conditions which favor Thrombosis—Conditions which favor Coagulation in the Puerperal State—Distinction between Thrombosis and Embolism—Is primary Thrombosis of the Pulmonary Arteries possible?—History—Symptoms of Pulmonary Obstruction—Is recovery possible?—Causes of Death—Post-mortem appearances—Treatment . . . 594

CHAPTER VII.

PUERPERAL ARTERIAL THROMBOSIS AND EMBOLISM.

Causes—Symptoms—Treatment 605

CHAPTER VIII.

OTHER CAUSES OF SUDDEN DEATH DURING LABOR AND THE PUERPERAL STATE.

Organic and Functional causes—Idiopathic Asphyxia—Pulmonary Apoplexy—Cerebral Apoplexy—Syncope—Shock and Exhaustion—Entrance of Air into the Veins 607

CHAPTER IX.

PERIPHERAL VENOUS THROMBOSIS (SYN.: CRURAL PHLEBITIS—PHLEGMASIA DOLENS—ANASARCA SEROSA—ŒDEMA LACTEUM—WHITE LEG, ETC.).

Nature—Symptoms—History and Pathology—Anatomical form of the Thrombi in the Veins—Detachment of Emboli—Treatment 609

CHAPTER X.

PELVIC CELLULITIS AND PELVIC PERITONITIS.

PAGE

Two Forms of Disease—Variety of Nomenclature—Importance of Differential Diagnosis—Etiology—Connection with Septicæmia—Seat of Inflammation—Relative Frequency of the two forms of Disease—Symptomatology—Results of Physical Examination—Terminations—Prognosis—Treatment . . . 616

[APPENDIX.

The Intravenous Injection of Fresh Milk, as an Improved Substitute for the Transfusion of Blood . . . . . 625]

INDEX 629

ILLUSTRATIONS.

Section of a Frozen Body in the last months of Pregnancy (after Braune). Illustrating the Relations of the Uterus to the surrounding Parts, and the attitude of the Fœtus, which is lying in the second Cranial Position . . *Plate I*

Section of a Frozen Body at the termination of the first stage of Labor (after Braune). The bag of membranes is still unbroken, the cervix is fully dilated, and the head (in the second position) is in the pelvic cavity . . *Plate II.*

FIG.		PAGE
1.	Os innominatum	26
2.	Sacrum and Coccyx	27
3.	Section of Pelvis and heads of Thigh-bones, showing the Suspensory Action of the Sacro-iliac Ligaments. (After Wood.)	29
4.	Outlet of Pelvis	32
5.	The Female Pelvis	32
6.	The Male Pelvis	33
7.	Brim of Pelvis, showing Antero-posterior, Oblique, and Conjugate Diameters	34
8.	Transverse section of Pelvis, showing the Diameters	34
9.	Planes of the Pelvis, with Horizon	36
10.	Axes of the Pelvis	37
11.	Axis of the Parturient Canal, including the Uterine Cavity and Soft Parts	38
12.	Side view of Pelvis	38
13.	Pelvis of a Child	39
14.	Vascular Supply of Vulva. (After Kobelt.)	45
15.	Longitudinal section of Body, showing Relation of Generative Organs	46
16.	Transverse section of Body, showing Relations of the Fundus Uteri	48
17.	Transverse section of Uterus	49
18.	Uterus and Appendages in an Infant	49
19.	Portion of Interior of Cervix. (Enlarged nine diameters.)	51
20.	Muscular Fibres of unimpregnated Uterus. (After Farre.)	52
21.	Developed Muscular Fibres from the Gravid Uterus. (After Wagner.)	52
22.	Lining Membrane of Uterus, showing network of Capillaries and Orifices of Uterine Glands. (After Farre.)	54
23.	Course of Glands in fully developed Mucous Membrane of Uterus	54
24.	Villi of Os Uteri stripped of Epithelium	55
25.	Villi of Uterus, covered with Epithelium and containing Looped Vessels	56
26.	Bifid Uterus. (After Farre.)	58
27.	Adult Parovarium, Ovary, and Fallopian Tube. (After Kobelt.)	59
28.	Posterior view of Muscular and Vascular arrangements. (After Rouget.)	60
29.	Fallopian Tube laid open. (After Richard.)	62
30.	Ovary enlarged under Menstrual Nisus	64
31.	Longitudinal Section of Adult Ovary. (After Farre.)	65
32.	Section through the cortical part of the Ovary. (After Turner.)	66

FIG.		PAGE
33.	Vertical Section through the Ovary of the Human Fœtus. (After Foulis.)	66
34.	Diagramatic Section of Graafian Follicle	67
35.	Bulb of Ovary	69
36.	Mammary Gland	70
37.	Section of Ovary, Showing Corpus Luteum three weeks after Menstruation	74
38.	Corpus Luteum at the fourth month of Pregnancy. (After Dalton.)	75
39.	Corpus Luteum of Pregnancy at Term. (After Dalton.)	75
40.	Sperm Cells and Nuclei	84
41.	Ovum of Rabbits containing Spermatozoa	86
42.	Formation of the "Polar Globule"	87
43.	Segmentation of the Yelk	88
44.	Formation of the Blastodermic Membrane. (After Joulin.)	89
45.	Aborted Ovum (of about forty days), showing the Triangular Shape of the Decidua (which is laid open), and the Aperture of the Fallopian Tube	91
46, 47, 48.	Formation of the Decidua. (After Dalton.)	91
49.	An Ovum removed from the Uterus, and part of the Decidua Vera cut away	92
50.	Area Germinativa, showing the primitive trace and Area Pellucida	94
51.	Development of the Amnion	95
52.	Development of the Umbilical Vesicle and Amnion	96
53.	An Embryo of about twenty-five days laid open. (After Coste.)	96
54.	Development of the Chorion	97
55.	Placental Villus, greatly magnified. (After Joulin.)	102
56.	Terminal Villus of Fœtal Tuft, minutely Injected. (After Farre.)	103
57.	Diagram representing a Vertical Section of the Placenta. (After Dalton.)	103
58.	Diagram illustrating the Mode in which a Placental Villus derives a Covering from the Vascular System of the Mother. (After Priestley.)	104
59.	The Extremity of a Placental Villus. (After Goodsir.)	104
60.	Anterior and Posterior Fontanelles	111
61.	Bi-parietal diameter, and Sutures, with Posterior Fontanelle	111
62.	Diameters of the Fœtal Skull	111
63.	Mode of ascertaining the Position of the Fœtus by Palpation	114
64.	Diagram illustrating the Effect of Gravity on the Fœtus. (After Duncan.)	115
65.	Illustrating the greater Mobility of the Fœtus and the larger relative amount of Liquor Amnii in Early Pregnancy. (After Duncan.)	116
66.	Diagram of Fœtal Heart. (After Dalton.)	119
67.	Diagram of Heart of Infant. (After Dalton.)	121
68.	Size of Uterus at various Periods of Pregnancy	124
69, 70, 71, 72.	Supposed Shortening of the Cervix at the third, sixth, seventh, and nine months of Pregnancy, as figured in Obstetric works	126
73.	Cervix of a Woman Dying in the eighth Month of Pregnancy	127
74.	Appearance of the Areola in Pregnancy	137
75.	Illustrating the Cavity between the Decidua Vera and the Decidua Reflexa during the early Months of Pregnancy. (After Coste.)	163
76.	Tubal Pregnancy, with Corpus Luteum in the Ovary of the opposite side	166
77.	Tubal Pregnancy. (From a specimen in the Museum of King's College.)	167
78.	Extra-uterine Pregnancy at term of the Tubo-Ovarian Variety	169
79.	Uterus and Fœtus in a case of Abdominal Pregnancy	175
80.	Lithopædion. (From a preparation in the Royal College of Surgeons.)	176
81.	Contests of the Cyst in Dr. Oldham's case of Missed Labor	182
82.	Hypertrophied Decidua laid open, with Ovum attached to Fundal Portion	213
83.	Imperfectly developed Decidua Vera, with the Ovum. (After Duncan.)	214

FIG.		PAGE
84.	Hydatiform Degeneration of the Chorion	215
85.	Double Placenta, with Single Cord	219
86.	Fatty Degeneration of the Placenta	220
87.	Knots in the Umbilical Cord	221
88.	Intra-uterine Amputation of both Arms and Legs	226
89.	An apoplectic Ovum, with Blood effused under Fœtal Surface of Membranes	231
90.	Blighted Ovum, with Fleshy Degeneration of the Membranes	232
91.	Mode in which the Placenta is Naturally Expelled. (After Duncan.)	253
92.	Attitude of Child in first position. (After Hodge.)	258
93.	First Position: Movement of Flexion	259
94.	First Position: Occiput in Cavity of Pelvis. (After Hodge.)	260
95.	First Position: Occiput at Outlet of Pelvis. (After Hodge.)	261
96.	First Position: Head Delivered. (After Hodge.)	263
97.	External Rotation of Head in first position. (After Hodge.)	263
98.	Third Position of Occiput at Brim of Pelvis	264
99.	Fourth Position of Occiput at Pelvic Brim	267
100.	Examination during the First Stage of Labor	272
101.	Mode of effecting Relaxation of the Perineum	276
102.	Usual Method of Removing the Placenta by Traction on the Cord	279
103.	Illustrating Expression of the Placenta	280
104.	First, or left Sacro-cotyloid position of the Breech	290
105.	Passage of the Shoulders and partial Rotation of the Thorax	291
106.	Descent of the Head	292
107.	Second position in Face Presentation	300
108.	Rotation Forwards of Chin	302
109.	Passage of the Head through the External Parts in Face Presentation	302
110.	Position of the Head when Forward Rotation of Chin does not take place	303
111.	Dorso-anterior Presentation of the Arm	311
112.	Dorso-posterior Presentation of the Arm	311
113.	Commencing Spontaneous Evolution	316
114.	Spontaneous Evolution further Advanced	316
115.	Dorsal Displacement of the Arm	318
116.	Dorsal Displacement of the Arm in Footling Presentations. (After Barnes.)	319
117.	Prolapse of the Umbilical Cord	320
118.	Postural Treatment of Prolapse of the Cord	322
119.	Braun's Apparatus for Replacing the Cord	323
120.	Labor complicated by Ovarian Tumor	345
121.	Twin Pregnancy, Breech and Head presenting	353
122.	Head Locking, both Children presenting Head first. (After Barnes)	355
123.	Head Locking, first Child coming Feet first; Impaction of Heads from wedging in Brim. (After Barnes)	357
124.	Labor impeded by Hydrocephalus	362
125.	Adult Pelvis retaining its Infantile Type	369
126.	Rickety Pelvis, with backward depression of Symphysis Pubis	371
127.	Flatness of Sacrum, with narrowing of Pelvic Cavity	371
128.	Pelvis deformed by Spondylolithesis. (After Kilian)	371
129.	Osteo-malacic Pelvis	373
130.	Extreme degree of Osteo-malacic Deformity	373
131.	Obliquely Contracted Pelvis. (After Duncan)	374
132.	Robert's, or double obliquely Contracted Pelvis	375
133.	Bony Growth from Sacrum obstructing the Pelvic Cavity	375

FIG. PAGE
134. Greenhalgh's Pelvimeter 380
135. Section of Fœtal Cranium, showing its Conical Form 384
136. Breadth of the biparetal Diameter of the Fœtal Cranium. (After Simpson) 384
137. Showing the greater Space for the biparietal Diameter in certain Cases of Deformity. (After Simpson) 384
138. Irregular Contraction of the Uterus, with Encystment of the Placenta . 406
139. Partial Inversion of the Fundus 430
140. Illustrating the Commencement of Inversion at the Cervix. (After Duncan) 432
141. Barnes's Bag for Dilating the Cervix 439
142. First Stage of Bi-polar Version 449
143. Second Stage of Bi-polar Version 450
144. Third Stage of Bi-polar Version 450
145. Fourth Stage of Bi-polar Version 451
146. Seizure of the Feet when the Hand is introduced into the Uterus . . 453
147. Drawing down of the Feet and Completion of Version 454
148. Showing the Completion of Version. (After Barnes) 455
149. Showing the Use of the Right Hand in Abdomino-anterior positions . . 456
150. Denman's Short Forceps 459
151. Zeigler's Forceps 460
152. Simpson's Forceps 461
153. Tarnier's Forceps 462
154. Position for Forceps Delivery, and Introduction of Lower Blade . . 466
155. Introduction of the Upper Blade 468
156. Traction in the Axis of the Brim, downwards and backwards . . . 469
157. Last Stage of Extraction; the Handles of the Forceps turned upwards towards the Mother's Abdomen 470
[158. Hodge Forceps . . . . . 474]
[159. Wallace " . . . . . 475]
[160. Davis " . . . . . 475]
[161. Elliot Forceps . . . . . 476]
[162. Sawyer " . . . . . 477]
[163. Application of Forceps at Inferior Strait . . . . . 478]
[164. Application of Forceps in the Head at Superior Strait, the left Blade held in place by an Assistant . . . . . 480]
[165. Direction of Forceps as Head is being Delivered . . . . . 481]
166. Vectis with Hinged Handle 483
167. Wilmot's Fillet 484
168, 169, 170. Various forms of Perforators 486
171 & 172. Crotchets 487
173. Craniotomy Forceps 488
174. Simpson's Cranioclast 488
175. Hick's Cephalotribe 489
176. Perforation of the Skull 492
177. Fœtal Head crushed by the Cephalotribe 495
[178. Straight Craniotomy Forceps . . . . . 496]
[179. Curved " " . . . . . 496]
180. Method of Transfusion by Aveling's Apparatus 521
181. Section of a Uterine Sinus from the Placental Site nine weeks after delivery. 528
182. Haye's Tube for Intra-uterine Injections 588

A few notices of the first edition of Playfair's Midwifery are submitted.

Considering the short time that has elapsed since its appearance, Dr. Playfair's treatise has become extremely popular with medical practitioners and students. In many medical schools it has been adopted as the "Manual of Midwifery" *par excellence*. This position it owes chiefly to its own intrinsic merits, but also to the fact that it is at once the production of one of our metropolitan professors and the most recent work representing the progress that has been made in the art and science of midwifery during the last quarter of a century. It is written in a clear, practical, and comprehensive style This is just the class of book that has long been needed for the student and practitioner alike, and we feel that it thoroughly merits the success which it has already met with.—*London Med. Examiner*, Sept. 6, 1877.

The high reputation already won by Dr. Playfair in this special department of medicine, is a sufficient guarantee for the meritorious character of this work. Every page is replete with interesting and instructive matter, containing the very latest information regarding the subject of obstetrics, full of hints of the greatest practical value. The book is profusely illustrated with valuable wood-cuts, and is printed in beautiful type. — *Cincinnati Lancet and Observer*, Nov. 1876.

He has been happy in producing the pleasantest, and most readable, and withal, for its size, the most instructive book on obstetrics of recent years.—*Am. Journ. of Obstetrics*, Jan. 1877.

These volumes will, from the honest purpose of their author, and the ability of their execution, at once take a position in the highest rank of obstetric works, and must prove a most useful guide in this most onerous and responsible branch of the profession.—*London Lancet*, June 24, 1876.

Dr. Playfair has produced an admirable book. Few works on Obstetrics we have enjoyed the reading of so much as this. We predict for "Playfair" no ordinary success.—*Amer. Practitioner*, Oct. 1876.

Not only an excellent epitome of the science and practice of Obstetrics, but one which presents to the student most of the recent advance in that branch of medical knowledge.—*Boston Med. and Surg. Journal*, Oct. 19, 1876.

The two text-books on Obstetric Medicine which hold the first place in the present day are Dr. Playfair's *Treatise on the Science and Practice of Midwifery*, and Dr. Leishman's *System of Midwifery*. Every student should have one or the other of these.—*London Med. Record*, Sept. 15, 1877.

This a well arranged and precisely written, compact manual, in which the science and art of obstetrics is presented in a very comprehensive and systematic manner. It is saying everything else for it to remark that it is thoroughly up to the requirements of the times, and is destined to be one of the most useful handbooks in that department. It is profusely illustrated and well printed.—*N. Y. Med. Record*, Dec. 30, 1876.

The work is recommended without reserve.—*Am. Med. Weekly*, Oct. 7, 1876.

We have Leishman and Playfair—text-books of the best kind—that is, works in which the theoretical groundwork is fairly laid down as the basis of the superstructure of practice, in which the reader's mind is properly prepared by fundamental instruction to take an intelligent interest in the subject and to understand the rules of treatment. In conclusion, we may congratulate those who teach, those who practice, and those who are learning the science and practice of obstetric medicine, that we possess two manuals which fairly represent the actual state of our knowledge, that may be generally trusted for the information they contain, and for the judgment with which it is set forth. Both works are written with considerable ability. The style of Leishman is graceful, clear, orderly, and flowing. It is most pleasant reading. Dr. Playfair's capacity for seeing a subject and placing it in a clear light before the reader is conspicuous.—*Brit. and For. Med.-Chirurg. Review*, July, 1876.

The student and also the busy practitioner will find here a rich mine from which he may obtain valuable information to aid him in his attendance on the puerperal female. The whole chapter upon the management of a natural labor is by itself worth the price of the book. Indeed, authors generally seem to regard this matter as of trivial importance, as though it were a thing too well known to need elucidation, while they dwell at great and tiresome length upon malpresentations, malformations, etc., matters which so rarely are encountered by the general practitioner. But we might continue at still greater length, so fascinating have we found this book of Dr. Playfair's. We would earnestly recommend it to all our readers as a book which should occupy a prominent position on their shelves, and one too which they should constantly and carefully study.—*Med. and Surg. Reporter*, Sept. 30, 1876.

The author's reputation was sufficient to warrant great expectations, when his forthcoming work was announced, and its appearance has caused no disappointment. It deals in a masterly way with many disputed points, and gives conclusions which it would be difficult to gainsay. The work is the most valuable acquisition to the subject on which it treats which has been given the profession in a long time, and in saying this we do not forget the many admirable treatises which have recently appeared. No practitioner can afford not to have it.—*Peninsular Journ. of Med.*, Sept. 1876.

This work is pre-eminently adapted to the wants of students, and will do more toward accomplishing the profession at large in that particular branch of medicine than any other work in the field of obstetric literature. In praise of this work too much cannot be said—in adverse criticism very little. We advise every student and every graduate to obtain it, and hope, ere long, to see it adopted as the principal text-book of obstetric medicine in every college in the United States.—*Nashville Med. and Surg. Journal*, Oct. 1876.

HENRY C. LEA—Philadelphia.

TITLE AND CONTENTS

OF

ASHHURST'S

PRINCIPLES AND PRACTICE

OF

SURGERY.

JUST READY.

In one large Octavo volume of over 1000 pages, with 542 Illustrations. Price $6 in Cloth; $7 in Leather.

HENRY C. LEA, Philadelphia.

A few notices of the previous edition of Ashhurst's Surgery are submitted.

Its author has evidently tested the writings and experiences of the past and present in the crucible of a careful, analytic, and honorable mind, and faithfully endeavored to bring his work up to the level of the highest standard of practical surgery. He is frank and definite, and gives us opinions, and generally sound ones, instead of a mere *résumé* of the opinion of others. He is conservative, but not hide-bound by authority. His style is clear, elegant, and scholarly. The work is an admirable text-book, and a useful book of reference. It is a credit to American professional literature, and one of the first ripe fruits of the soil fertilized by the blood of our late unhappy war.—*N. Y. Med. Record*, Feb 1, 1872.

Indeed, the work as a whole must be regarded as an excellent and concise exponent of modern surgery, and as such it will be found a valuable text-book for the student, and a useful book of reference for the general practitioner.—*N. Y. Med. Journ.*, Feb. 1872.

From our examination of the work, we regard it as comparing favorably with any of the best and most recent works on surgery. We bespeak for it a position among the standard authorities. Being by an American author, and of the highest merits, will recommend it to American surgeons. The descriptions of operations especially, are plain and easily understood; and on this account it will be valued by the general practitioner and the student.—*Cincinnati Med. News*, Jan. 1872.

We highly recommend it, both for the use of those beginning their studies, and of those engaged in practice who desire a work, readily consulted, that will tell them plainly, and in a few words, what is best to be done.—*Phila. Med. Times*, Feb. 1, 1872.

The work is, in the main, a clear and lucid exposition of the principles and practice of surgery as pursued by the best masters of the present day, enriched in no small degree with the views and experience of the talented author, one of the brightest and most accomplished surgeons of the country. The volume is a valuable contribution to the literature of surgery: it conveys more sound information than any other single volume of surgery that we have ever seen. The author has displayed a thorough knowledge of both the art and the science of surgery, and conveys it to his readers in a singularly attractive and graceful manner. The work is well printed and fully illustrated. It is a volume that reflects credit alike to author and publisher.—*Am. Journ. of Syphilography*, April, 1872.

The author has succeeded admirably in condensing into a volume of a thousand pages all the surgical information which the general practitioner requires. The work is fully abreast of the times, and contains all the modern improvements in surgical science which have proved satisfactory in the author's hands.—*Canada Lancet*, Feb. 1872.

For students it is, we believe, the best work we have, and general practitioners will find pleasure and profit in reading it. Its statistical tables make it a work to which the author's fellow-workers will gladly refer. Dr Ashhurst has done a good work, and we thank him for it.—*Am. Journ. of Med. Sciences*, April, 1872.

From his own extensive experience, and from the other rich sources at his command, he has collected the materials for the best text-book on surgery accessible to the American student.—*Pacific Med. and Surg. Journ.*, April, 1872.

The rules laid down for operative procedures are, in the main, capital, involving late views and inventions; and the whole work gives evidence of having been written by one thoroughly familiar with surgical literature.—*Buffalo Med. and Surg. Journ.*, Feb. 1872.

The practitioner in the country and in the village is compelled to do more or less surgery; it is a part of his business, and a part of his emoluments. But often his surgical practice does not justify him in a large outlay for a surgical library. For him we know of no work that will fill all the requirements better than this. It is well arranged, clear, concise, and practical We can conscientiously recommend it to the student as a text-book, and to the physician as a book of reference.—*Nashville Journ. Med. and Surg.*, March, 1872.

There has been felt for a considerable time, by the profession, a need of an American treatise comprehensive, and yet concise, adapted both to the medical student and active physician—one that would embody the valuable investigations and practice of foreign writers with that which has been developed in America We think that the present volume will fairly meet this want, and commend it to our friends.—*Detroit Rev. of Med. and Pharm.*, April, 1872.

We observe one valuable addition, hitherto very much neglected by the authors of our surgical text-books, and that is the appending to almost all the discussion of prominent operations a paragraph giving the statistical results hitherto observed. The work is well brought up to the latest improvements, and is worthy of the confidence of the profession.—*Chicago Med. Examiner*, Jan. 1, 1872.

HENRY C. LEA, Philadelphia.

THE

PRINCIPLES AND PRACTICE

OF

SURGERY.

BY

JOHN ASHHURST, Jr., M.D.,

PROFESSOR OF CLINICAL SURGERY IN THE UNIVERSITY OF PENNSYLVANIA; SURGEON TO THE EPISCOPAL HOSPITAL AND TO THE CHILDREN'S HOSPITAL; CONSULTING SURGEON TO ST. CHRISTOPHER'S HOSPITAL AND TO THE HOSPITAL OF THE GOOD SHEPHERD, ETC.

SECOND EDITION

ENLARGED AND THOROUGHLY REVISED.

WITH

FIVE HUNDRED AND FORTY-TWO ILLUSTRATIONS.

PHILADELPHIA:
HENRY C. LEA.
1878.

Entered according to the Act of Congress, in the year 1878, by

HENRY C. LEA,

in the Office of the Librarian of Congress. All rights reserved.

COLLINS, PRINTER.

TO THE

SURGEONS AND STUDENTS OF SURGERY OF AMERICA,

FOR WHOSE USE IT IS DESIGNED,

AND

BY WHOSE FAVOR AND APPROVAL THE LABORS OF ITS PREPARATION

AND REVISION HAVE BEEN GREATLY LIGHTENED,

This Volume

IS MOST GRATEFULLY DEDICATED

BY THEIR

FRIEND AND FELLOW-STUDENT,

THE AUTHOR.

DEDICATION TO THE FIRST EDITION.

(In Memoriam.)

TO

JOSEPH CARSON, M.D.,

PROFESSOR OF MATERIA MEDICA AND PHARMACY

IN THE

UNIVERSITY OF PENNSYLVANIA,

AS A MARK

BOTH OF RESPECT FOR HIS DISTINGUISHED PROFESSIONAL AND SCIENTIFIC

ACQUIREMENTS, AND OF GRATITUDE FOR MANY PERSONAL KINDNESSES,

This Volume

IS MOST CORDIALLY AND AFFECTIONATELY

INSCRIBED,

BY HIS

FRIEND AND PUPIL,

THE AUTHOR.

PREFACE.

THE object of this work is, as its title indicates, to furnish, in as concise a manner as may be compatible with clearness, a condensed but comprehensive description of the Modes of Practice now generally employed in the treatment of Surgical Affections, with a plain exposition of the Principles upon which those modes of practice are based.

In carrying out this object to the best of his ability, it has been, of course, necessary for the author to have regard to the teachings of Surgical Authorities, in both this and other countries, and he has not hesitated, therefore, to avail himself freely of the labors both of systematic writers and of those who have illustrated particular departments of surgery by monographs and special treatises. In making use of the work of others, the author has endeavored, in every instance, to give due credit for what he has borrowed, and, should the proper acknowledgment have been in any case unfortunately neglected, hereby begs the reader to believe that the omission has been entirely unintentional.

In revising his work for a second edition, the author has spared no pains to render it worthy of a continuance of the favor with which it has heretofore been received, by incorporating in it an account of the more important recent observations in Surgical Science, and of such novelties in Surgical Practice as have seemed to him to be really improvements; and by making such changes as have been suggested to him by enlarged personal experience as a Clinical Teacher and Hospital Surgeon.

The general arrangement of the volume is the same as in the first edition; every part has been carefully revised, and, though a considerable amount of new material has been added, yet by a judicious typographical arrangement the number of pages has been but slightly increased.

The series of illustrations has been very much improved, a number of original cuts (from photographs, or from drawings by Drs. Nancrede, Martinez, and J. M. Taylor) having been inserted, and many of the borrowed illustrations having been replaced by new and better ones selected from the large stock at the disposal of the publisher. In the case of the selected cuts, their original source has been indicated in every instance in which this could be ascertained.

In concluding his work, the author ventures to express a hope that, in its present form, his volume, though necessarily compendious in its mode of dealing with many subjects, may be considered as affording upon the whole a not unsatisfactory representation of Modern Surgery.

2000 West DeLancey Place,
Philadelphia, *October*, 1878.

CONTENTS.

PAGE

PREFACE v

LIST OF ILLUSTRATIONS xix

INTRODUCTORY REMARKS 33

CHAPTER I.

INFLAMMATION.

Pathology of inflammation 34

Clinical view of inflammation 40

Ulceration 46

Granulation and cicatrization 46

Gangrene 48

Inflammatory fever 49

CHAPTER II.

TREATMENT OF INFLAMMATION.

Prophylactic treatment 52

Curative treatment 52

Hygienic 52

Local 54

Constitutional 59

CHAPTER III.

OPERATIONS IN GENERAL; ANÆSTHETICS.

Qualifications of the surgeon 62

Circumstances influencing results of operations 63

Causes of death after operations 66

Preparation of patients for operation 68

Mode of conducting an operation 71

Anæsthetics 71

CHAPTER IV.

MINOR SURGERY.

Bandaging 79

Revulsion and counter-irritation 83

Hypodermic injection 85

Vaccination 85

PAGE
Bloodletting 86
Transfusion of blood 88
Aspiration 88

CHAPTER V.

AMPUTATIONS.

History of amputation 89
Conditions requiring amputation 90
Instruments used in amputation 92
Different modes of amputating 98
Structure and affections of stumps 104
Mortality after amputation 107
Causes of death after amputation 111

CHAPTER VI.

SPECIAL AMPUTATIONS.

Hand 112
Wrist 114
Forearm and elbow 115
Upper arm and shoulder 116
Above shoulder 118
Foot 118
Ankle 122
Leg 123
Knee 124
Thigh 126
Hip 127

SURGICAL INJURIES.

CHAPTER VII.

EFFECTS OF INJURIES IN GENERAL; WOUNDS.

Constitutional effects of injuries 132
Shock 132
Traumatic delirium 136
Local effects of injuries 137
Contusions 137
Strangulation of parts 139
Wounds 139
Incised wounds 139
Lacerated and contused wounds 146
Antiseptic treatment of wounds 149
Punctured wounds 151
Poisoned wounds 153

CHAPTER VIII.

GUNSHOT WOUNDS.

Gunshot wounds 156
Amputation and excision in gunshot injuries 164

CHAPTER IX.

INJURIES OF BLOODVESSELS.

PAGE

Injuries of veins 169
Entrance of air into veins 170
Injuries of arteries 172
Hemorrhagic diathesis 175
Process of nature in arresting hemorrhage 176
Treatment of arterial hemorrhage 177
Collateral circulation 190
Secondary hemorrhage 191
Gangrene from arterial occlusion 193
Traumatic aneurism 194
Arterio-venous wounds 195
Lines of incision for ligation of special arteries 196

CHAPTER X.

INJURIES OF NERVES, MUSCLES AND TENDONS, LYMPHATICS, BURSÆ, BONES, AND JOINTS.

Nerves 205
Muscles and tendons 207
Lymphatics 208
Bursæ 208
Bones 208
Joints 209

CHAPTER XI.

FRACTURES.

Causes of fracture 213
Varieties 214
Separation of epiphyses 216
Symptoms 217
Diagnosis 220
Process of union in fractured bones 221
Treatment of fractures 223
Simple 223
Complicated 227
Compound 229
Ununited fracture and false joint 234

CHAPTER XII.

SPECIAL FRACTURES.

Bones of face 238
Lower jaw 239
Ribs 241
Sternum 242
Pelvis 243

PAGE
Sacrum and coccyx 244
Clavicle 244
Scapula 248
Humerus 249
Olecranon and coronoid process 254
Bones of forearm 254
Radius 255
Bones of hand 257
Femur 257
Patella 264
Tibia and fibula 265
Bones of foot 268

CHAPTER XIII.

DISLOCATIONS.

Dislocations in general 269
Special dislocations 277
Lower jaw 277
Ribs, sternum, and pelvis 278
Clavicle 279
Scapula 280
Shoulder 280
Elbow 284
Wrist 287
Hand 288
Hip 288
Patella 295
Knee 296
Ankle 297
Foot 297

CHAPTER XIV.

EFFECTS OF HEAT AND COLD.

Burns and scalds 298
Operations for contracted cicatrices 302
Effects of cold 303
Pernio or chilblain 304
Frost-bite 304

CHAPTER XV.

INJURIES OF THE HEAD.

Injuries of the scalp 305
Concussion of the brain 307
Compression of the brain 311
Traumatic encephalitis 313
Contusion of the skull 314
Fracture of the skull 315
Injuries of the cranial contents 317
Trephining in injuries of the head 318

CHAPTER XVI.

INJURIES OF THE BACK.

PAGE
Injuries of the spinal cord 323
Concussion from indirect causes; railway spine 329
Injuries of the vertebral column 330
Treatment of spinal injuries 334
Trephining in spinal injuries 336

CHAPTER XVII.

INJURIES OF THE FACE AND NECK.

Injuries of the face 338
Injuries of the neck 342
Injuries of the larynx and trachea 344
Surgical treatment of apnœa 349
Injuries of the œsophagus 354

CHAPTER XVIII.

INJURIES OF THE CHEST.

Contusions of the chest 357
Wounds of the chest 358
Injuries of the diaphragm 366

CHAPTER XIX.

INJURIES OF THE ABDOMEN AND PELVIS.

Contusions of the abdomen 366
Wounds of the abdomen 370
Abdominal fistulæ 372
Injuries of pelvic organs 375
Injuries of male genitals 376
Injuries of female genitals 378

SURGICAL DISEASES.

CHAPTER XX.

DISEASES RESULTING FROM INFLAMMATION.

Abscesses 380
Ulcers 385
Gangrene and gangrenous diseases 390

CHAPTER XXI.

ERYSIPELAS.

Varieties of erysipelas 398
Causes and symptoms 399
Diagnosis 400
Treatment 401

CHAPTER XXII.

PYÆMIA.

PAGE
Nomenclature of pyæmia 405
Pathology 406
Morbid anatomy 409
Causes 410
Symptoms and diagnosis 411
Treatment 413

CHAPTER XXIII.

DIATHETIC DISEASES.

Struma 415
Tubercle 415
Scrofula 416
Rickets 419

CHAPTER XXIV.

VENEREAL DISEASES. GONORRHŒA AND CHANCROID.

Gonorrhœa 421
Complications 425
Balano-posthitis, or external gonorrhœa 428
Gonorrhœa of female genitals 428
Ophthalmic gonorrhœa 429
Gonorrhœa of nose, mouth, rectum, and umbilicus 430
Gonorrhœal rheumatism 430
Chancroid 431
Complications 433
Treatment 434
Primary bubo or bubon d'emblée 437

CHAPTER XXV.

VENEREAL DISEASES—*continued.* SYPHILIS.

History of syphilis 437
Causes of syphilis 438
Primary syphilis 439
Secondary syphilis 443
Tertiary syphilis 447
Hereditary syphilis 451
Diagnosis of syphilis 452
Treatment of syphilis 455

CHAPTER XXVI.

TUMORS.

Classification of tumors 461
Cystic tumors 463
Simple or barren cysts 463
Compound or proliferous cysts 465

PAGE
Non-malignant solid tumors and outgrowths 467
Semi-malignant or recurrent tumors 479
Malignant tumors 483
Cancer 483
Epithelioma 495
Excision of tumors 498

CHAPTER XXVII.

SURGICAL DISEASES OF THE SKIN, AREOLAR TISSUE, LYMPHATICS, MUSCLES, TENDONS, AND BURSÆ.

Skin and appendages 499
Areolar tissue 505
Lymphatic system 505
Muscles and tendons 506
Bursæ 510

CHAPTER XXVIII.

SURGICAL DISEASES OF THE NERVOUS SYSTEM.

Neuritis 512
Neuroma 512
Neuralgia 513
Tetanus 516

CHAPTER XXIX.

SURGICAL DISEASES OF THE VASCULAR SYSTEM.

Diseases of veins 521
Vascular tumors or angeiomata 525
Diseases of arteries 529
Aneurism 532
Treatment of aneurism in general 539
Treatment of particular aneurisms 551
Aortic 551
Innominate 552
Carotid 554
Subclavian and vertebral 555
Axillary and brachial 558
Abdominal and inguinal 559
Gluteal and sciatic 560
Iliac and common femoral 561
Femoral and popliteal 562

CHAPTER XXX.

DISEASES OF BONE.

Periostitis 563
Osteitis 564
Osteo-myelitis 566
Abscess in bone 568
Caries 569
Necrosis 571

PAGE
Osteomalacia 576
Tubercle and scrofula 577
Tumors in bone 577

CHAPTER XXXI.

DISEASES OF JOINTS.

Synovitis 580
Hydrarthrosis 582
Pyarthrosis 583
Arthritis 583
Hip disease 588
Sacro-iliac disease 593
Rheumatoid arthritis 594
Periarthritis 596
Anchylosis 596
Loose cartilages in joints 602
Articular neuralgia 603

CHAPTER XXXII.

EXCISIONS.

Excision in general 604
Special excisions 608
Scapula 608
Clavicle and ribs 609
Shoulder-joint 609
Humerus 610
Elbow-joint 611
Radius and ulna 612
Wrist-joint 612
Bones of hand 613
Hip-joint 613
Knee-joint 618
Bones of leg and ankle-joint 622
Bones of foot 623

CHAPTER XXXIII.

ORTHOPÆDIC SURGERY.

Wry-neck 624
Lateral curvature of the spine 626
Deformities of the upper extremity 629
Deformities of the lower extremity 630
Club-foot 632

CHAPTER XXXIV.

DISEASES OF THE HEAD AND SPINE.

Diseases of the scalp, skull, and dura mater 637
Encephalocele and meningocele 638
Paracentesis capitis 639

PAGE
Spina bifida 639
Antero-posterior curvature of the spine 641
Arthritis and necrosis of the spine 645

CHAPTER XXXV.

DISEASES OF THE EYE.

Diseases of the conjunctiva 646
Diseases of the cornea, sclerotic, and ciliary body 650
Diseases of the iris 656
Operations on the iris 658
Cataract 661
Operations for cataract 663
Diseases of the vitreous humor, choroid, retina, and optic papilla (amaurosis and amblyopia) 668
Accommodation and refraction 675
Glaucoma 676
Affections of the entire eyeball 678
Strabismus 679
Diseases of the eyelids 681
Diseases of the lachrymal apparatus 685
Diseases of the orbit 687

CHAPTER XXXVI.

DISEASES OF THE EAR.

Diseases of the auricle 688
Diseases of the external meatus 689
Diseases of the membrana tympani 692
Diseases of the Eustachian tube 694
Diseases of the cavity of the tympanum 696
Various affections of the ear 699

CHAPTER XXXVII.

DISEASES OF THE FACE AND NECK.

Diseases of the nose 701
Rhinoplasty 707
Diseases of the frontal sinuses, of the cheeks, and of the lips . . . 711
Diseases of the neck 719

CHAPTER XXXVIII.

DISEASES OF THE MOUTH, JAWS, AND THROAT.

Diseases of the tongue 722
Diseases of the jaws 727
Diseases of the palate 737
Diseases of the tonsils 741
Diseases of the pharynx and œsophagus 743
Diseases of the air-passages 748

CHAPTER XXXIX.

DISEASES OF THE BREAST.

PAGE

Hypertrophy of the breast 750
Galactocele or milk-tumor 751
Diseases of the nipple and areola 751
Mammitis and mammary abscess 752
Tumors of the breast 755
Excision of the breast 759
Diseases of the mammary gland in the male 760

CHAPTER XL.

HERNIA.

Causes of hernia 761
Nomenclature 763
Structure of a hernia 763
Symptoms of hernia in general 765
Treatment of reducible hernia 766
Radical cure of hernia 767
Irreducible hernia 769
Inflamed and incarcerated hernia 770
Strangulated hernia 771
The taxis 777
Herniotomy 781

CHAPTER XLI.

SPECIAL HERNIÆ.

Classification of herniæ 785
Diaphragmatic and epigastric herniæ 785
Ventral and umbilical herniæ 786
Lumbar hernia 787
Inguinal hernia 788
Femoral hernia 798
Obturator hernia 802
Perineal, pudendal, vaginal, and ischiatic herniæ 803

CHAPTER XLII.

DISEASES OF INTESTINAL CANAL.

Intestinal obstruction 804
Malformations of the anus and rectum 812
Stricture and tumors of the anus and rectum 815
Rectal fistulæ 819
Fistula in ano 820
Fissures and ulcers of the anus 823
Hemorrhoids 825
Prolapsus of the rectum 831
Inflammation of the rectal pouches 833
Neuralgia of the anus 833
Pruritus of the anus 834

CHAPTER XLIII.

DISEASES OF ABDOMINAL ORGANS AND VARIOUS OPERATIONS ON THE ABDOMEN.

PAGE

Paracentesis abdominis 834
Ovarian tumors 835
Cæsarean section, etc. 843
Nephrotomy for renal calculus 844
Extirpation of the kidney, spleen, etc., ... 845
Treatment of abdominal abscesses 845
Treatment of abdominal hydatids, etc. 847

CHAPTER XLIV.

URINARY CALCULUS.

Varieties of calculus 848
Renal calculus 851
Vesical calculus 852
Litholysis, or solvent treatment of stone 859
Lithotrity 859
Lithotomy 869
Recurrent calculus 884
Urethral calculus 885
Prostatic calculus 885
Calculus in women 886
Extra-pelvic vesical calculus 888

CHAPTER XLV.

DISEASES OF THE BLADDER AND PROSTATE.

Malformations and malpositions of the bladder 888
Cystitis 892
Structural diseases of the bladder 895
Hæmaturia 897
Paralysis and atony of the bladder; retention and incontinence of urine . 898
Inflammatory diseases of the prostate 900
Chronic hypertrophy of the prostate 902
Retention of urine from prostatic obstruction 906
Other diseases of the prostate 909

CHAPTER XLVI.

DISEASES OF THE URETHRA AND URINARY FISTULA.

Exploration of the urethra 909
Malformations of the urethra 914
Prolapsus of the urethra, urethrocele, and urethritis 916
Spasm of the urethra 917
Stricture of the urethra 918
Urethral fever 921
Treatment of stricture 922

PAGE
Tumors and fissure of the urethra 934
Urinary fistula in the male 935
Urinary fistula in the female 938

CHAPTER XLVII.

DISEASES OF THE GENERATIVE ORGANS.

Male Genitals.

Diseases of the penis and scrotum 944
Diseases of the testis 952
Hydrocele and hæmatocele 954
Varicocele 959
Sarcocele and tumors of the testis 961
Functional disorders of the male generative apparatus 965

Female Genitals.

Malformations 968
Surgical diseases of the vulva 970
Surgical diseases of vagina 971
Surgical diseases of the uterus 973

Index 979

LIST OF ILLUSTRATIONS.

FIG.		PAGE
1.	Corpuscles and filaments in recent lymph (Bennett)	37
2.	Fibro-plastic and fusiform cells from lymph (Bennett)	38
3.	Pus corpuscles (Rindfleisch)	39
4.	Section of granulating surface (Rindfleisch)	47
5.	Sphacelus; showing line of separation (Miller)	48
6.	Mediate irrigation; coil prepared for use (Petitgand)	55
7.	Mediate irrigation; coil applied to head (Petitgand)	55
8.	Mediate irrigation; coil applied to leg (Petitgand)	56
9.	Irrigating apparatus (Erichsen)	56
10.	Ward carriage	65
11.	Clover's chloroform apparatus (Erichsen)	77
12.	Reversed spiral bandage	80
13.	Figure of 8 bandage	81
14.	Spica bandage	81
15.	Four-tailed bandage	81
16.	Bandage of Scultetus	81
17.	Seutin's pliers	83
18.	Corrigan's button cautery	83
19.	Porte-moxa	84
20.	Different forms of cautery iron	84
21.	Marshall's galvanic cautery	85
22.	Mechanical leech	86
23.	Aspirator	88
24.	Petit's tourniquet	93
25.	Spanish windlass	94
26.	Signoroni's tourniquet	94
27.	Skey's tourniquet	95
28.	Lister's aorta-compressor (Erichsen)	95
29.	Amputating-knife	95
30.	Double-edged catlin	95
31.	Bistoury	96
32.	Scalpel	96
33.	Small amputating saw	96
34.	Bone-nippers	96
35.	Artery-forceps	96
36.	Tenaculum	97
37.	Reef-knot	97
38.	Surgical needles	98
39.	Amputation of the arm; circular method (Druitt)	98
40.	Amputation of the thigh; antero-posterior flap method (Bryant)	100
41.	Amputation of the thigh; modified circular method (Skey)	101
42.	Amputation of the leg; Teale's method (Bryant)	102
43.	Thigh stump, with splint for extension (Bryant)	105
44.	Aneurismal varix in a stump (Erichsen)	105
45.	Neuromata of stump (Miller)	106
46.	Necrosis after amputation (Liston)	106
47.	Amputation of a finger (Erichsen)	113
48.	Amputation at metacarpo-phalangeal joint (Skey)	113

FIG.		PAGE
49.	Amputation of the thumb (Erichsen)	113
50.	Result of partial amputation of the hand	114
51.	Amputation of the wrist (Erichsen)	115
52.	Amputation of forearm (Bryant)	115
53.	Amputation at the shoulder-joint; Larrey's method	117
54.	Result of Larrey's amputation	117
55.	Amputation at shoulder-joint; Dupuytren's method (Bryant)	117
56.	Result of Dupuytren's amputation	118
57.	Amputation of great toe, with metatarsal bone (Erichsen)	119
58.	Amputation of metatarsus; Lisfranc's and Hey's methods (Skey)	120
59.	Chopart's amputation (Bryant)	120
60.	Pirogoff's amputation (Erichsen)	121
61.	Bony union after Pirogoff's amputation (Hewson)	121
62.	Syme's amputation (Skey)	122
63.	Flap amputation of the leg (Erichsen)	124
64.	Amputation at the knee-joint (Erichsen)	125
65.	Amputation at the hip-joint (Holmes)	128
66.	Result of hip-joint amputation	129
67.	Mounted needle, with ligature	143
68.	Interrupted suture	143
69.	Continued or glover's suture	144
70.	Twisted suture	144
71.	India-rubber suture	144
72.	Quilled suture	145
73.	Serre-fine	146
74.	Steam spray apparatus	150
75.	Nélaton's probe	162
76.	Bullet forceps	162
77.	Screw extractor	163
78.	Gunshot fracture of hip	166
79.	Partial excision of radius for gunshot injury	167
80.	Rupture of external iliac artery	173
81.	Speir's artery constrictor	181
82.	Aneurismal needle	181
83.	Grooved director	185
84.	Ligation of an artery in its continuity (Bryant)	186
85.	Acupressure; first method; raw surface (Erichsen)	187
86.	Acupressure; first method; cutaneous surface (Erichsen)	187
87.	Acupressure; second method (Erichsen)	187
88.	Acupressure; third method (Erichsen)	187
89.	Acupressure; fifth method (Erichsen)	188
90.	Arterio-venous aneurisms (Bryant)	196
91.	Ligation of innominate artery (Skey)	197
92.	Ligation of carotid and facial arteries (Bryant)	198
93.	Ligation of occipital artery (Skey)	199
94.	Ligation of temporal artery (Skey)	199
95.	Ligation of subclavian and lingual arteries (Bryant)	199
96.	Ligation of brachial, radial, and ulnar arteries (Miller)	200
97.	Ligation of common iliac artery (Liston)	201
98.	Ligation of external iliac and femoral arteries (Bryant)	202
99.	Ligation of popliteal artery (Miller)	203
100.	Ligation of anterior tibial artery (Miller)	204
101.	Ligation of posterior tibial artery (Miller)	204
102.	Wallerian degeneration of nerve (Bertolet)	206
103.	Partial fracture	215
104.	Comminuted fracture of patella	215
105.	Impacted fracture through trochanters of femur	216
106.	Deformity from injury of epiphysis	217
107.	Gangrene from tight bandaging (Bell)	226
108.	Bavarian immovable splint (Bryant)	233
109.	Improved drill for ununited fracture	237
110.	Gaillard's instrument for ununited fracture	237

FIG.		PAGE
111.	Barton's bandage for fractured jaw	239
112.	Attachments of outer end of clavicle; showing branches of coraco-clavicular ligament (Gray)	245
113.	Oblique fracture of clavicle (Gray)	246
114.	Sayre's dressing for fractured clavicle	248
115.	Velpeau's bandage	249
116.	Separation of upper epiphysis of humerus	250
117.	Fracture of the surgical neck of the humerus (Gray)	250
118.	Dressing for fracture of the surgical neck of the humerus (Fergusson)	251
119.	Fracture at the base of the condyles of the humerus (Gray)	252
120.	Fracture at the base of, and between, the condyles of the humerus (Erichsen)	253
121.	Physick's elbow splints	253
122.	Fracture of the radius near its lower end (Liston)	256
123.	Bond's splint for fracture of the radius	256
124.	Gordon's splint for fracture of the radius	257
125.	Fracture of neck of femur (Fergusson)	258
126.	Adhesive plaster stirrup for making extension in fractures of lower extremity	261
127.	Weight extension with long splints for treatment of fractured thigh	262
128.	N. R. Smith's anterior splint for fractured thigh	262
129.	Compound fracture of thigh; treatment by bracketed long splint (Erichsen)	263
130.	Fracture of patella	264
131, 132.	Separation of upper epiphysis of tibia	266
133.	Fracture-box, with movable sides	266
134.	Salter's cradle	267
135.	Wire rack for fracture of the leg	268
136.	Clove-hitch	273
137.	Congenital dislocation of both hips (Holmes)	276
138.	Dislocation of lower jaw	277
139.	Dislocation of sternal end of clavicle (Bryant)	279
140.	Dislocation of clavicle on acromion (Bryant)	279
141.	Dislocation of humerus into axilla (Pirrie)	280
142.	Subcoracoid luxation of humerus (Pirrie)	280
143.	Reduction of dislocated shoulder by heel in axilla	283
144.	Reduction of dislocated shoulder by White's and Mothe's method	283
145.	Forward dislocation of head of radius (Liston)	285
146.	Dislocation of elbow backwards (Liston)	286
147.	Reduction of dislocated elbow	286
148.	Levis's instrument for reducing dislocations of thumb and finger	288
149.	Anatomy of the hip-joint; the Y ligament (Bigelow)	289
150.	Backward dislocation of hip	289
151.	Reduction of backward dislocation by manipulation (Bigelow)	291
152.	Downward dislocation of hip	292
153.	Reduction of downward dislocation by manipulation (Bigelow)	292
154.	Application of rope windlass for backward dislocation of hip	293
155.	Bloxam's dislocation tourniquet applied for downward dislocation (Erichsen)	294
156.	Pulleys applied for upward dislocation of hip	295
157.	Angular extension in old dislocation of hip (Bigelow)	295
158.	Teale's operation for contraction of lower lip (Erichsen)	303
159, 160.	Severe scalp wound	306
161.	Hey's saw	319
162.	Common trephine	321
163.	Different forms of elevator	321
164.	Conical trephine	322
165.	Bilateral dislocation of cervical vertebra (Ayres)	332
166.	Bony union of fractured vertebræ	333
167, 168.	Fracture of vertebral body and unilateral dislocation of a lumbar vertebra	334
169.	Oblique illumination (Wells)	339

FIG.		PAGE
170.	Eversion of upper lid for detection of foreign bodies (Erichsen)	339
171.	Application of the laryngoscope (Erichsen)	348
172.	Throat-mirror used in laryngoscopy	348
173.	Gross's tracheal forceps	349
174.	Operation of tracheotomy (Liston)	351
175.	Tracheal tube	353
176.	Burge's œsophageal forceps	355
177.	Horsehair probang, or Ramoneur	356
178.	Ventral hernia, following rupture of abdominal muscles	367
179.	Lembert's suture	372
180.	Gely's suture	372
181.	Dupuytren's enterotome	374
182.	Enterotome applied (Erichsen)	374
183.	Operation for ruptured perineum (Thomas)	379
184.	Drainage-tube and forked probe	383
185.	Strapping an ulcer (Liston)	388
186.	Scissors for skin-grafting	388
187.	Diagram illustrating processes of thrombosis and embolism (Callender)	408
188.	Scrofulous ulcer of leg (Erichsen)	417
189.	Gonorrhœal epididymitis (Liston)	426
190, 191.	Ophthalmic gonorrhœa (Dalrymple)	429
192.	Mucous patches (Miller)	445
193.	Syphilitic rupia (Druitt)	448
194.	Syphilitic panaris	450
195.	Syphilitic permanent teeth (Hutchinson)	452
196.	Maury's fumigating apparatus	458
197.	Sebaceous tumors and horn (Bryant)	467
198.	Structure of a fatty tumor (Bennett)	468
199.	Fatty tumor, showing lobated appearance (Miller)	468
200.	Fibro-cellular tumor of labium (Holmes)	470
201.	Structure of myxoma (Holmes)	471
202.	Structure of fibrous tumor (Erichsen)	472
203.	Structure of fibro-muscular tumor (Bennett)	472
204.	Structure of enchondroma (Erichsen)	473
205.	Large enchondroma of scapula	473
206.	Mutiple enchondromata of hand (Druitt)	474
207.	Cancellous exostosis of femur (Druitt)	475
208.	Ivory-like exostoses of skull (Miller)	475
209.	Adenoma of mamma (Rindfleisch)	476
210.	Lymphoma (Green)	477
211.	Painful subcutaneous tubercle (Smith)	478
212.	Recurrent fibroid tumor (Green)	479
213.	Myeloid tumor (Billroth)	480
214.	Several varieties of sarcoma (Bryant)	481
215.	Alveolar sarcoma (Billroth)	482
216.	Section of scirrhous breast (Liston)	484
217.	Scirrhus of breast, in stage of ulceration	484
218.	Secondary growths of scirrhus (Miller)	485
219.	Cells from a scirrhus of the mamma (Green)	486
220.	Microscopic appearances of scirrhus (Green)	486
221.	Medullary cancer in stage of ulceration (Druitt)	487
222.	Microscopic appearances of medullary cancer (Green)	489
223.	Melanoid cancer (Bryant)	490
224.	Hæmatoid cancer of breast (Miller)	490
225.	Microscopic appearances of colloid cancer (Rindfleisch)	491
226.	Epithelioma of lower lip (Fergusson)	495
227.	Concentric globes of epithelioma (Green)	496
228.	Écraseur	498
229.	Elliptical incision for removal of tumors	498
230.	Double S incision for removal of tumors	498
231.	Warts around the anus (Ashton)	500
232.	Malignant onychia (Druitt)	501

FIG.		PAGE
233.	Toe-nail ulcer (Liston)	501
234.	Rodent ulcer (Mackenzie)	503
235.	Phagedenic lupus ulcer (Druitt)	504
236.	Elephantiasis Arabum in lower extremity (Smith)	505
237.	Felon (Liston)	508
238.	Compound ganglion	509
239.	Enlarged bursa over the patella; housemaid's knee (Liston)	510
240.	Formation of seton with trocar and canula (Erichsen)	511
241.	Apparatus for treatment of bunion	512
242.	Section of a neuroma (Smith)	513
243.	Application of pins to varicose veins (Miller)	524
244.	Aneurism by anastomosis (Fergusson)	525
245.	Nævus; application of quadruple ligature (Liston)	528
246.	Subcutaneous ligature of nævus (Holmes)	528
247.	Diagram of ligature of flat and elongated nævus (Erichsen)	528
248.	Diagram of tied flat and elongated nævus (Erichsen)	528
249.	Fatty degeneration in inner coat of aorta (Green)	530
250.	Atheroma of aorta (Green)	530
251.	Atheromatous ulcer of aorta (Liston)	531
252.	Large fusiform aneurism of aorta bursting into pericardium (Erichsen)	533
253.	Sacculated aneurism of aorta (Erichsen)	533
254.	Perforation of ribs by aortic aneurism (Pirrie)	537
255.	Aneurism of innominate artery (Erichsen)	537
256.	Stellate rupture of aortic aneurism into pericardium (Erichsen)	539
257.	Diagram of Anel's operation	541
258.	Diagram of Hunter's operation	541
259.	Diagram of Brasdor's operation	545
260.	Diagram of Wardrop's operation	545
261.	Carte's compressor for the groin	547
262.	Gibbon's modification of Charrière's compressor	547
263.	Osteoporosis of femur (Druitt)	565
264.	Sclerosis and eburnation of femur (Liston)	565
265.	Abscess in tibia (Holmes)	568
266.	Caries (Druitt)	570
267.	Gouge-forceps	571
268.	Burr-head drill	571
269.	Central necrosis; new bone with cloacæ (Erichsen)	572
270.	Sequestrum forceps	574
271.	Necrosis of femur, following gunshot fracture	575
272.	Senile atrophy of neck of thigh-bone (Liston)	576
273.	Scrofulous osteitis (Erichsen)	577
274.	Osteo-sarcoma of forearm	578
275.	Enchondroma of femur	578
276.	Gelatinous arthritis of elbow (Barwell)	584
277.	Arthritis of knee-joint in advanced stage	586
278.	Barwell's splint for continuous extension	587
279.	Deformity in second stage of hip disease (Barwell)	589
280.	Deformity in third stage of hip disease	589
281.	Excised head and neck of femur, showing change in shape of bone in third stage of hip disease	590
282.	Deformity from double hip disease (Hodge)	590
283.	Sayre's short splint for hip disease	592
284.	Sayre's long splint for hip disease	592
285.	Agnew's splint for hip disease	593
286.	Head of femur in rheumatoid arthritis (Druitt)	595
287.	Synostosis of hip-joint (Pirrie)	597
288.	Anchylosis of knee-joint in position of over-extension	598
289.	Chronic arthritis of knee-joint, with partial anchylosis in bad position	598
290.	Barwell's splint for continuous extension in anchylosis of knee	599
291.	Bigg's apparatus for contraction of knee	599
292.	Adams's saw for subcutaneous osteotomy	600
293, 294.	Subcutaneous osteotomy of both thigh-bones	601

FIG.		PAGE
295.	Trochlea of humerus, with loose cartilages	602
296.	Fergusson's lion-jawed forceps	606
297.	Butcher's saw	606
298.	Chain saw	607
299.	Butcher's knife-bladed forceps	607
300.	Excision of shoulder-joint (Erichsen)	609
301, 302.	Excised extremities of humerus and ulna	610
303.	Excision of elbow-joint (Bryant)	611
304.	Result of excision of elbow-joint	612
305.	Diagram of Lister's method of excising wrist-joint	613
306.	Diagram of Heyfelder's method of excising hip-joint	614
307.	Excised head and neck of femur	614
308.	Sayre's cuirass for hip-joint excision	615
309.	Result of hip-joint excision	616
310.	Excision of both hip-joints	616
311, 312.	Excised extremities of femur and tibia	618
313.	Price's splint for excision of knee-joint	619
314.	Wire splint for excision of knee-joint	620
315, 316.	Result of excision of knee-joint	620
317.	Tenotome	625
318.	Lateral curvature of spine (Erichsen)	628
319.	Apparatus for knock-knee	631
320.	Talipes equinus (Pirrie)	633
321.	Talipes varus (Fergusson)	634
322.	Varus shoe, with jointed sole-plate	634
323.	Talipes calcaneus (Bryant)	634
324.	Talipes valgus (Pirrie)	635
325.	Spina bifida (Druitt)	639
326.	Antero-posterior curvature of spine (Liston)	641
327.	Caries of the vertebræ (Liston)	641
328.	Sayre's suspension apparatus	645
329.	Granular lids (Jones)	648
330.	Pterygium (Stellwag von Carion)	649
331.	Pannus (Jones)	650
332.	Paracentesis corneæ (Erichsen)	651
333.	Prolapse of the iris (Miller)	654
334.	Abscission of staphyloma (Stellwag von Carion)	654
335.	Critchett's operation for staphyloma (Lawson)	655
336.	Iritis; showing ciliary zone of sub-conjunctival injection (Pirrie)	657
337.	Lance-shaped iridectomy knife	659
338.	Curved iris forceps	659
339.	Liebreich's bandage (Lawson)	660
340.	Tyrrell's hook	660
341.	Iridodesis (Lawson)	660
342.	Canula forceps	660
343.	Spatula hook	661
344.	Flap extraction of cataract (Wells)	663
345.	Cystotome and curette	664
346.	Traction spoons	665
347.	Von Graefe's cataract knife	666
348, 348*a*.	Diagram of Von Graefe's operation for cataract	666
349.	Von Graefe's hook	666
350.	Bowman's stop-needle	667
351.	Hays's knife-needle	667
352.	Canula scissors	668
353.	Liebreich's portable ophthalmoscope	669
354.	Use of the ophthalmoscope (Erichsen)	670
355.	Galezowski's strabismometer	679
356.	Strabismus hook	680
357.	Snellen's forceps	682
358.	Entropion forceps	683
359, 360.	Adams's operation for ectropion (Lawson)	684

FIG.		PAGE
361.	Symblepharon (Mackenzie)	685
362.	Bowman's canaliculus knife	686
363.	Toynbee's ear speculum	689
364.	Wilde's snare for aural polypus	691
365, 366.	Forceps for aural polypus	691
367.	Politzer's method of inflating the tympanum	693
368.	Toynbee's artificial membrana tympani	694
369.	Application of the otoscope (Toynbee)	695
370.	Catheter for Eustachian tube	696
371.	Siegle's pneumatic speculum	698
372.	Lipoma (Liston)	701
373.	Plugging the nostril with Bellocq's sound (Fergusson)	702
374.	Posterior nasal syringe	704
375.	Gooch's double canula	705
376.	Fibrous polypus of the nose producing frog-face	706
377.	Rhinoplasty by Indian method (Fergusson)	709
378.	Pancoast's tongue and groove suture	709
379.	Diagram of Syme's rhinoplastic operation	710
380.	Diagram of Burow's plastic operation	711
381.	Formation of prolabium by Serres's method	713
382, 383.	Serres's cheiloplastic operation, modified (Erichsen)	713
384, 385.	Buchanan's cheiloplastic operation (Erichsen)	714
386.	Result of Syme's cheiloplastic operation	714
387, 388.	Operation for restoration of upper lip and angle of mouth	715
389, 390.	Restoration of upper lip (Sédillot)	715
391.	Diagram of single harelip (Holmes)	716
392.	Cheek-compressor for harelip (Fergusson)	716
393.	Malgaigne's operation for harelip	717
394.	Double harelip, with projecting intermaxillary portion (Holmes)	718
395.	Macrostoma	718
396.	Bronchocele (Greene)	719
397.	Tumor of parotid region (Fergusson)	721
398.	Ranula, between floor of mouth and mylo-hyoid muscles (Fergusson)	725
399.	Wood's gag for operations on the tongue	726
400.	Regnoli's mode of exposing tongue (Erichsen)	727
401.	Removal of tongue by division of lower jaw and écraseur (Erichsen)	727
402.	Fibrous epulis (Bryant)	728
403.	Encephaloid of antrum (Liston)	730
404.	Excision of upper jaw (Fergusson)	732
405.	Disarticulation of lower jaw (Fergusson)	736
406.	Whitehead's gag and tongue-depressor	738
407.	Sédillot's operation for staphyloraphy	738
408.	Forceps-scissors for cutting uvula	741
409.	Fahnestock's tonsillotome	742
410.	Stricture of the œsophagus (Druitt)	745
411.	Epithelioma of larynx (Erichsen)	748
412.	Gibb's laryngeal écraseur	749
413.	Simple hypertrophy of breasts (Bryant)	750
414.	Strapping the breast (Druitt)	754
415.	Brodie's sero-cystic sarcoma of breast (Druitt)	755
416.	Mammary sarcoma with large cysts	757
417.	Excision of the breast (Fergusson)	759
418.	Scrotal hernia in a child	765
419.	Strangulated hernia; stricture in neck of sac (Erichsen)	772
420.	Strangulated hernia; gangrene of intestine (Liston)	773
421.	Herniotomy; searching for seat of stricture (Liston)	781
422.	Hernia-knife	782
423.	Oblique and direct inguinal herniæ	788
424.	Hernia into vaginal process of peritoneum (Pirrie)	789
425.	Hernia into funicular portion of vaginal process	789
426.	Common inguino-scrotal hernia (Pirrie)	790
427.	Encysted hernia (Liston)	790

FIG.		PAGE
428.	Wutzer's apparatus for radical cure of hernia	794
429.	Agnew's instrument for radical cure of hernia	795
430.	Wood's operation for radical cure of hernia	797
431.	Incision for strangulated inguinal hernia (Fergusson)	797
432.	Femoral hernia (Erichsen)	798
433.	Incision for strangulated femoral hernia (Fergusson)	801
434.	Internal strangulation by a diverticulum (Pirrie)	804
435.	Lumbar colotomy (Bryant)	810
436.	Imperforate anus (Ashton)	812
437.	Imperforate rectum (Ashton)	813
438.	Fibrous stricture of rectum (Ashton)	815
439.	Malignant stricture of rectum (Ashton)	817
440.	Rectal speculum	821
441.	Protruding hemorrhoids (Ashton)	826
442.	Ring forceps for piles	829
443.	Smith's clamp for piles	829
444.	Bushe's needle and needle-carrier	830
445.	Partial prolapsus of rectum (Bryant)	832
446.	Section of complete prolapsus of the rectum (Druitt)	832
447.	Anal truss	833
448.	Tapping the abdomen (Fergusson)	835
449.	Sims's uterine probe	836
450.	Siphon trocar	838
451.	Fitch's trocar and canula	841
452.	Atlee's clamp	841
453.	Sims's catheter	842
454.	Uric acid deposits (Holmes)	848
455.	Uric acid calculus (Gross)	848
456.	Oxalate of lime deposits (Holmes)	849
457.	Mulberry calculus (Miller)	849
458.	Phosphate of lime (Holmes)	850
459.	Triple phosphate (Holmes)	850
460.	Cystine calculus (Roberts)	850
461.	Alternating calculus (Erichsen)	852
462.	Sound for examining bladder	855
463.	Thompson's hollow sound, with slide and scale	856
464.	Sounding for stone behind prostate (Erichsen)	857
465.	Sounding for stone above pubis (Erichsen)	857
466.	Sounding for encysted calculus (Erichsen)	858
467.	Weiss and Thompson's improved lithotrite	860
468.	Fergusson's lithotrite	860
469.	Introduction of the lithotrite (Erichsen)	862
470.	Position of lithotrite in crushing the stone (Liston)	863
471.	Bigelow's lithotrite	863
472.	Clover's evacuating apparatus	864
473.	Bigelow's evacuating apparatus for litholapaxy	864
474.	Urethral forceps	866
475.	Lithotomy staff	870
476.	Lithotomy forceps	871
477.	Lithotomy scoop	871
478.	Tube for plugging wound in lithotomy	871
479.	Position of patient and incision in lateral lithotomy (Erichsen)	872
480.	Deep incision in lithotomy (Fergusson)	873
481.	Position of finger and scoop in extracting stone (Erichsen)	874
482.	Physick's cutting gorget	874
483.	Frère Côme's lithotome caché	874
484.	Dupuytren's lithotome caché	879
485.	Bilateral lithotomy	880
486.	Urethral dilator	886
487.	Female staff	887
488, 489, 490.	Plastic operation for extroversion of bladder	891
491.	Keyes's apparatus for washing out the bladder	894

FIG.		PAGE
492.	Polypoid tumors of the bladder (Civiale)	896
493.	Enlarged median lobe of prostate (Erichsen)	902
494.	Hypertrophied bladder and prostate (Thompson)	903
495.	Mercier's elbowed catheter	905
496.	Prostatic catheters	905
497.	Squire's vertebrated prostatic catheter	905
498.	Catheterization in enlarged prostate (Erichsen)	906
499.	Puncture of bladder through rectum, and above pubis (Phillips)	907
500.	French flexible bougie and catheter	910
501.	Bougies à boule	911
502.	Introduction of the catheter (Voillemier)	912
503.	Desormeaux's endoscope	914
504.	Hypospadias; Duplay's operation	915
505.	Stricture of urethra at sub-pubic curvature (Thompson)	919
506.	Stricture of urethra near orifice (Thompson)	919
507.	False passages (Druitt)	924
508.	Thompson's stricture expander	925
509.	Holt's instrument for splitting stricture	925
510.	Civiale's urethrotome	926
511.	Syme's staff for external division of stricture	927
512.	Tapping the urethra in the perineum (Bryant)	931
513.	Papillary tumor of female urethra (Boivin)	934
514.	Urinary fistulæ in the male (Liston)	935
515.	Dieffenbach's lace suture	936
516.	Urethroplasty by Dieffenbach's method (Erichsen)	937
517.	Urethroplasty by Le Gros Clark's method (Erichsen)	937
518.	Duck-billed speculum for the vagina	938
519.	Emmet's vaginal speculum	939
520.	Knife for vesico-vaginal fistula	940
521.	Operation for vesico-vaginal fistula; sutures in position (Simon)	940
522.	Coghill's wire twister	941
523.	Bozeman's button suture	941
524.	Operation for vesico-uterine fistula (Thomas)	942
525.	Transverse obliteration of the vagina (Simon)	943
526.	Circumcision (Erichsen)	946
527.	Reduction of paraphimosis (Phillips)	947
528.	Hypertrophy or elephantiasis of scrotum (Titley)	949
529.	Epithelioma of the penis	950
530.	Epithelioma of the scrotum (Curling)	951
531.	Strapping the testicle (Velpeau)	953
532.	Hernia of the testicle (Curling)	953
533.	Tapping for hydrocele (Erichsen)	956
534.	Wood's instrument for varicocele	961
535.	Cystic sarcocele (Bryant)	963
536.	Division of spermatic cord in castration (Erichsen)	965
537.	Cylindrical speculum for the vagina	972
538.	Cusco's vaginal speculum	972
539.	Thomas's clamp for elytrorrhaphy	973
540.	Fibro-cellular uterine polypus protruding from vulva (Boivin and Dugés)	974
541.	Interstitial uterine fibroid (Barnes)	975
542.	Amputation of the cervix uteri with the écraseur (Chassaignac)	976

BARNES ON DISEASES OF WOMEN—New Edition—Just Ready.

A CLINICAL EXPOSITION OF THE MEDICAL AND SURGICAL DISEASES OF WOMEN. By ROBERT BARNES, M.D., F.R.C.P., Obstetric Physician to St. Thomas's Hospital, etc Second American, from the Second and Revised English Edition. In one handsome volume of 784 pages, with 180 illustrations; cloth, $4 50; leather, $5 50.

The call for a new edition of Dr. Barnes's work on the Diseases of Females has encouraged the author to make it even more worthy of the favor of the profession than before. By rearrangement and careful pruning, space has been found for a new chapter on the Gynæcological Relations of the Bladder and Bowel Disorders, without increasing the size of the book, while many new illustrations have been introduced where experience has shown them to be needed. It is therefore hoped that the volume will be found to reflect thoroughly and accurately the present condition of gynæcological science.

A new edition of Dr. Barnes' admirable treatise on the diseases of women can hardly fail to be most acceptable to the republic of medicine By far the best of its kind published in this country, it has for some time been unobtainable, being out of print, but the space of time has been amply utilized by Dr. Barnes in adding to and otherwise perfecting the volume now before us. Care and industry are evinced in every page, and we think Dr. Barnes may be sincerely congratulated on the result.—*London Med. Times and Gazette*, July 13, 1878.

Dr. Barnes stands at the head of his profession in the old country, and it requires but scant scrutiny of his book to show that it has been sketched by a master. It is plain, practical common sense: shows very deep research without being pedantic; is eminently calculated to inspire enthusiasm without inculcating rashness; points out the dangers to be avoided as well as the success to be achieved in the various operations connected with this branch of medicine; and will do much to smooth the rugged path of the young gynæcologist and relieve the perplexity of the man of mature years.—*Canadian Journ of Med. Science*, Nov. 1878

The plan and its execution are such as to place in a most perspicuous light all the demonstrated facts of modern gynæcology. Of the many books on this subject, we can confidently affirm that he who buys this one will have no occasion to regret his choice.—*Detroit Lancet*, Oct. 1878.

We commend this work to our subscribers; it is a valuable addition to the literature of the subject, and to the practical man will be found an invaluable guide.—*Canada Med. and Surg. Journ.*, Oct. '78.

No other gynæcological work holds a higher position, having become an authority everywhere in diseases of women. The work has been brought fully abreast of present knowledge. Every practitioner of medicine should have it upon the shelves of his library, and the student will find it a superior text-book.—*Cincinnati Med. News*, Oct. 1878.

Dr. Barnes' work is one of a practical character largely illustrated from cases in his own experience but by no means confined to such, as will be learned from the fact that he quotes from no less than 628 medical authors in numerous countries. Coming from such an author, it is not necessary to say that the work is a valuable one and should be largely consulted by the profession.—*Am. Supp. Obstetrical Journ. Gt. Britain and Ireland*, Oct. 1878.

PLAYFAIR'S MIDWIFERY—New Edition—Just Ready.

A TREATISE ON THE SCIENCE AND PRACTICE OF MIDWIFERY. By W. S. PLAYFAIR, M.D., F.R.C.P., Professor of Obstetric Medicine in King's College, etc. Second American, from the Second and Revised English Edition. Edited, with Additions, by ROBERT P. HARRIS, M.D. In one handsome octavo volume of about 650 pages, with 182 illustrations; cloth, $4; leather, $5.

In reprinting this work from the second London edition, the position which it has assumed in this country as an authoritative text-book seemed to call for such additions as would render it more completely suited to the wants of the American student. A careful scrutiny on the part of the editor has shown that but little was required for this purpose; the work, though condensed, being very complete and accurate, and having enjoyed a very thorough revision at the hands of the author. With the exception of numerous short foot-notes, therefore, his additions have been confined to points in which the experience and practice of American obstetricians differ from those of England, and to one or two matters of recent interest. These are chiefly the Cæsarean Section; the varieties of forceps, and their use in the dorsal decubitus; dystocia from tetanoid uterine constriction; and the intra-venous injection of milk, as a substitute for the transfusion of blood. Notwithstanding a considerable increase in size, the price has been maintained at the former very moderate rate.

From JOSEPH TABER JOHNSON, M.D., Prof. of Obstetrics, etc, Med Supt. Georgetown Univ., D. C.

"I regard it the most valuable work on the subject in the English language."

From E. S. DUNSTER, M.D., Prof. of Obstetrics, etc., Univ. of Michigan.

"It still stands as it has done from the first publication, as the head of the list of text-books in both the colleges with which I am connected, for I believe in many respects it is better adapted for the student and beginner than any other book we now possess."

The position which this work has so quickly taken in this country as an authoritative text-book renders any extended consideration of its plan and scope unnecessary. Its merits, which are many, have already found their way to the appreciation of students and practitioners alike in the length and breadth of the land.—*Am. Supp Obstet. Journal of Gt. Britain and Ireland*, Oct. 1878.

The two text-books of obstetric medicine which hold the first place in the present day are Dr. W. S. Playfair's Treatise on the Science and Practice of Midwifery, and Dr. Leishman's System of Midwifery. Every student should have one or the other of these. —*The Lond. Med. Record*, Sept. 15, 1878.

A NEW AMERICAN GYNÆCOLOGY—In Press.

THE PRINCIPLES AND PRACTICE OF GYNÆCOLOGY, for the Use of Students and Practitioners of Medicine. By THOMAS ADDIS EMMET, M.D., Surgeon to the Woman's Hospital, New York, etc. In one handsome octavo volume of about 800 pages, with numerous illustrations.

HENRY C. LEA, Philadelphia.

STILLÉ & MAISCH'S DISPENSATORY—Nearly Ready.

THE NATIONAL DISPENSATORY:

CONTAINING THE NATURAL HISTORY, CHEMISTRY, PHARMACY, ACTIONS AND USES OF MEDICINES, INCLUDING THOSE RECOGNIZED IN THE PHARMACOPŒIAS OF THE UNITED STATES AND GREAT BRITAIN.

By ALFRED STILLÉ, M.D., LL.D.,

Prof. of Theory and Practice of Med. and of Clinical Med. in the Univ. of Pennsylvania, etc.

AND

JOHN M. MAISCH, Ph.D.,

Prof. of Mat. Med. and Bot. in the Phil. College of Pharm., Secretary to the Am. Pharm. Association.

In one handsome imperial octavo volume of over fourteen hundred pages, with two hundred and five illustrations.

The want has long been felt and expressed of a work which, within a moderate compass, should give to the physician and pharmaceutist an authoritative exposition of the pharmacopœias from the existing standpoint of medical and pharmaceutical science. For several years the authors have been earnestly engaged in the preparation of the present volume, with the hope of satisfying this want, and their labors are now sufficiently advanced to enable the publisher to promise its appearance during the coming season. Their distinguished reputation in their respective departments is a guarantee that the work will fulfil all reasonable expectation as a guide in the selection, compounding, dispensing, operation, and medicinal uses of drugs, complete in all respects, while convenient in size, and carefully divested of all unnecessary and obsolete matter.

FINLAYSON'S CLINICAL DIAGNOSIS.—Nearly Ready.

CLINICAL MANUAL FOR THE STUDY OF MEDICAL CASES.

FOR THE USE OF STUDENTS AND PRACTITIONERS OF MEDICINE.

EDITED BY JAMES FINLAYSON, M.D.,

Physician and Lecturer on Clinical Medicine in the Glasgow Medical Infirmary, etc.

With eighty-five illustrations on wood. In one very handsome volume, royal 12mo., of about 500 pages.

The scope of this useful and somewhat novel work can best be understood by the subjoined condensed

SUMMARY OF CONTENTS.

CHAPTER I. The Physiognomy of Disease. II. Examination and Reporting of Medical Cases. III. Temperature—Pulse—General Signs of Pyæmia. IV. Skin—Hair—Nails—Glands—Joints. V. Examination of the Organs of Special Sense. Subjective Disorders of the Special Senses—Testing of Cranial Nerves. VI. Symptoms of Disorder in the Nervous System. VII. The Use of Electrical Instruments VIII. Insanity. IX. Disorders of the Respiratory and Circulatory Systems. X. Examination of the Fauces, Larynx, and Nares. XI. Disorders of the Digestive System. XII. Jaundice and Dropsy. XIII. Examination of the Urine and Significance of Urinary Symptoms. XIV. Symptoms connected with the Male Generative Organs. XV. Disorders of the Female Organs and their Relations to the General Health. XVI. Physical Examination of Chest and Abdomen—Lungs—Heart—Abdomen. XVII. Method of performing Post-Mortem Examinations.

The concurrence of gentlemen specially familiar with the several subjects being requisite to the satisfactory development of a plan so extensive, Dr. Finlayson has secured the coöperation of Professor Gairdner, who has contributed the chapter on the Physiognomy of Disease; Professor Wm. Stephenson that on Disorders of the Female Organs; Dr. Alex. Robertson that on Insanity; Prof. Samson Gemmell those on the Sphygmograph and Physical Diagnosis; and Dr. Joseph Coates those on the Fauces, Larynx, and Nares and on the method of performing *post mortem* examinations. Other chapters have enjoyed the advantage of revision by gentlemen specially versed in their several subjects; and the volume is presented as thoroughly on a level with the most advanced condition of knowledge in a department which has made such rapid strides of advancement within the last few years.

HENRY C. LEA, Philadelphia.

HAMILTON ON NERVOUS DISEASES—Just Ready.

NERVOUS DISEASES: THEIR DESCRIPTION AND TREATMENT.

By ALLAN McLANE HAMILTON, M.D.,

Attending Physician at the Hospital for Epileptics and Paralytics, Blackwell's Island, N. Y., and at the Out-Patients' Department of the New York Hospital.

In one handsome octavo volume of 512 pages, with 53 illustrations; cloth, $3 50.

The author tells us in his preface that it has been his object to produce a concise, practical book, and we think he has been successful, considering the extent of the subject which he has undertaken. In fact, it is more extensive than the title properly or accurately indicates, embracing—besides what are usually regarded as nervous diseases—inflammatory affections, both acute and chronic, hemorrhages and tumors of the cerebrum and cerebellum, medulla oblongata, spinal cord and nerves, with thrombosis and embolism of the arteries, sinuses, and veins. The reader may therefore expect information, more or less full and satisfactory, on almost every point connected with the nervous system We have no hesitation in saying that reliance may be placed on Dr. Hamilton's conscientious performance of his self-assigned task, on his soundness of judgment, and freedom from empiricism.—*Edinburgh Med. Journ.*, Oct 1878.

It is of the highest importance for the general practitioner as well as the student, to have treatises at their command, that give, in a succinct and systematic way, everything essential that is known in relation to the functions and derangements of the nervous system, as well as the treatment of these derangements, free from all unnecessary ballast of theorizing and speculating on disputed facts. Such a book we believe the one whose title heads the article to be. A cursory perusal convinces us that Dr H. is not only thoroughly acquainted with the literature of his subject, but that he has made good use of his ample opportunities in the large Blackwell Hospital of New York to verify the teachings of others.—*Ohio Med. Recorder*, Aug. 1878.

From a very careful examination of the whole work, we can justly say that the author has not only clearly and fully treated of diagnosis and treatment, but, unlike most works of this class, it is very comprehensive in regard to etiology, and exposes the pathology of nervous diseases in the light of the very latest experiments and discoveries. The drawings are excellent and well selected. After this careful revision, we can heartily recommend this work to students and general practitioners in particular as being a full exposition of diseases of the nervous system, their pathology and treatment, to date.—*N. Y. Med. Record*, Aug. 3, 1878.

It is the best book on neurology for college students and for the general practitioner that has recently been issued from the American press—*Va. Med. Month'ly*, Nov. 1878.

A need has existed for a book on nervous diseases, clear, compact, comprehensive, and up to the times. This has been largely met by Dr Hamilton's volume. The author, an able and industrious worker and writer, has already become well known to the profession. After a careful reading of this book, we can commend it to the general practitioner and student as the work most likely to meet their requirements. The specialist also will find much in it to interest and instruct, as it is not wanting in original investigation, clinical, climatical, histological, and pathological.—*Phila. Med. Times*, Sept. 28, 1878.

The different nervous diseases are taken up systematically and fully treated. The volume throughout is written in clear and practical language, and contains in brief the salient points of clinical history, diagnosis, pathology, and treatment of nervous diseases recognized at the present day The work has been prepared with a view of meeting the wants of the student and general practitioner. Whenever necessary, handsome illustrations are added to explain the text. It is a volume which will supply a need long felt by the profession, and to Dr. Hamilton the profession is indebted for this clear and able classification of nervous diseases and a publication of uncommon merit.—*Md. Med. Journal*, Aug. 1878.

STIMSON'S OPERATIVE SURGERY—Just Ready.

A MANUAL OF OPERATIVE SURGERY. By LEWIS A. STIMSON, A.M., M.D., Surgeon to the Presbyterian Hospital, N. Y. In one very handsome royal 12mo. volume of about 500 pages, with 332 illustrations; cloth, $2 50.

The work before us is a well printed, profusely illustrated manual of over four hundred and seventy pages. The novice, by a perusal of the work, will gain a good idea of the general domain of operative surgery, while the practical surgeon has presented to him within a very concise and intelligible form the latest and most approved selections of operative procedure. The precision and conciseness with which the different operations are described enable the author to compress an immense amount of practical information in a very small compass.—*N. Y. Medical Record*, Aug. 3, 1878.

This volume is devoted entirely to operative surgery, and is intended to familiarize the student with the details of operations and the different modes of performing them. The work is handsomely illustrated, and the descriptions are clear and well drawn. It is a clever and useful volume; every student should possess one. The preparation of this work does away with the necessity of pondering over larger works on surgery for descriptions of operations, as it presents in a nutshell just what is wanted by the surgeon without an elaborate research to find it.—*Md. Med. Journal*, Aug. 1878.

We think he has succeeded very well in striking that happy and rarely-trodden medium between the unsatisfying meagreness of an epitome, or compend, and the wearying diffuseness of an elaborate treatise. His language is lucid, and his words are aided by a free use of illustrations, three hundred and thirty two of which are inserted in the text—*Med. and Surg. Reporter*, June 29, 1878.

The author has succeeded admirably in his purpose to present a manual of the different surgical operations now in vogue, and his work will have a large sale.—*Buffalo Med. and Surg. Journ.* Sept. 1878.

The author has succeeded in condensing into a small compass a complete outline of operative surgery, with illustrations of all the important points. Many of the illustrations are peculiar and remarkable for their simplicity and clearness. The descriptions are too brief to obviate the use of more elaborate treatises, but the work is precisely what was needed as a concise and comprehensive guide and reminder, covering the wide field of practical surgery. It is printed with exceeding care and neatness—*Pacific Med. and Surg. Jour.*, Aug. '78.

HENRY C. LEA, Philadelphia.

TITLE AND CONTENTS

OF

FINLAYSON'S

CLINICAL DIAGNOSIS.

JUST READY.

In one handsome 12mo. volume of 546 pages, with 85 Illustrations. Price, $2.63 in Cloth.

HENRY C. LEA, Philadelphia.

NEW MEDICAL WORKS—Just Ready.

BARNES'S CLINICAL EXPOSITION OF THE MEDICAL AND SURGICAL DISEASES OF WOMEN. 2d Am., from the 2d enlarged and revised Eng. Ed. In 1 handsome 8vo. vol. of 784 pp., with 181 illus.; cloth, $4.50; leather, $5 50.

PLAYFAIR'S TREATISE ON THE SCIENCE AND PRACTICE OF MIDWIFERY. 2d Am., from the 2d and revised Eng. Ed. Edited, with Additions, by ROBERT P. HARRIS, M.D. In 1 handsome 8vo. vol. of 637 pp., with 182 illus.; cloth, $4; leather, $5.

HAMILTON ON NERVOUS DISEASES; THEIR DESCRIPTION AND TREATMENT. In 1 8vo. vol. of 512 pp., with 53 illus.; cloth, $3.50.

ASHHURST'S PRINCIPLES AND PRACTICE OF SURGERY. 2d and revised Ed. In 1 large 8vo. vol. of over 1000 pp., with 542 illus.; cloth, $6; leather, $7.

STIMSON'S MANUAL OF OPERATIVE SURGERY. In 1 royal 12mo. vol. of 477 pp., with 332 illus.; cloth, $2.50.

BROWNE ON THE THROAT AND ITS DISEASES. With 100 typical illus. in color, and 50 wood-cuts, designed and executed by the Author. In 1 handsome imp. 8vo. vol. of 351 pp.; cloth, $5.

CLASSEN'S ELEMENTARY QUANTITATIVE ANALYSIS. Translated, with Notes and Additions, by EDGAR F. SMITH, Ph.D., Asst. Prof. of Chemistry in the Towne Scientific School, Univ. of Pa. In 1 handsome royal 12mo. vol. of 324 pp., with illus.; cloth, $2.

FOTHERGILL'S ANTAGONISM OF THERAPEUTIC AGENTS, AND WHAT IT TEACHES. Being the Fothergillian Prize Essay for 1878. In 1 neat royal 12mo. vol. of 156 pp.; cloth, $1.

GRAY'S ANATOMY, DESCRIPTIVE AND SURGICAL. The Drawings by H. V. CARTER, M.D., and Dr WESTMACOTT. The Dissections jointly by the Author and Dr. CARTER. With an Introduction on General Anatomy and Development, by T. HOLMES, M.A., Surg. to St. George's Hosp. A new Am., from the 8th enlarged London Ed. To which is added LANDMARKS, MEDICAL AND SURGICAL. By LUTHER HOLDEN, F.R.C.S. In one magnificent imp. 8vo. vol. of 983 pp., with 522 elaborate engravings; cloth, $6; leather, $7.

FOWNES' MANUAL OF CHEMISTRY; Theoretical and Practical. Revised and corrected by HENRY WATTS, B.A., F.R.S. With a colored plate, and 177 wood-cuts. A new Am., from the 12th and enlarged London Ed. Ed. by ROBERT BRIDGES, M.D. 1 vol., royal 12mo., of 1027 pp; cloth, $2.75; leather, $3.25.

PREPARING.

STILLE AND MAISCH'S NATIONAL DISPENSATORY: Containing the Natural History, Chemistry, Pharmacy, Actions and Uses of Medicines, including those recognized in the Pharmacopœias of the United States and Gt. Britain. With 205 illustrations. In one handsome octavo volume of over 1400 pages.

EMMET'S PRINCIPLES AND PRACTICE OF GYNÆCOLOGY, for the Use of Students and Practitioners of Medicine. In 1 handsome 8vo. vol. of over 800 pp., with many illustrations.

ELLIS'S DEMONSTRATIONS IN ANATOMY. Being a Guide to the Knowledge of the Human Body by Dissection. By GEORGE VINER ELLIS, Emeritus Prof. of Anat. in Univ. Coll., London. From the 8th and revised Eng. Ed. In 1 handsome 8vo. vol. of over 700 pp., with 248 engravings.

BRYANT'S PRACTICE OF SURGERY. 2d Am., from 2d and revised Eng. Ed. In 1 handsome imp 8vo. vol. of over 1000 pp., with about 600 engravings.

ALLEN'S SYSTEM OF HUMAN ANATOMY: INCLUDING ITS MEDICAL AND SURGICAL RELATIONS. For the Use of Students and Practitioners of Medicine. With an Introductory Chapter on Histology, by E. O. SHAKESPEARE, M.D. In 1 handsome 4to vol., with several hundred illus. on lithographic plates, and many wood-cuts in the text.

WELLS'S TREATISE ON DISEASES OF THE EYE. 3d Am., from the 4th and revised Eng Ed., with Additions; illustrated with many wood engravings, and six colored plates. With selections from the test-types of Jaeger and Snellen. In one large 8vo. vol.

CORNIL & RANVIER'S MANUAL OF PATHOLOGICAL HISTOLOGY. Translated, with Notes and Additions, by E. O. SHAKESPEARE, M.D. In 1 handsome 8vo. vol. of about 600 pp., with over 300 illus.

FOX'S EPITOME OF SKIN DISEASES. With formulæ for Students and Practitioners. 2d Ed., revised and greatly enlarged.

CHADWICK'S MANUAL OF THE DISEASES PECULIAR TO WOMEN. In one neat royal 12mo. vol., with illus.

HENRY C. LEA, Philadelphia.

CLINICAL DIAGNOSIS:

A HANDBOOK

FOR

STUDENTS AND PRACTITIONERS OF MEDICINE.

EDITED BY

JAMES FINLAYSON, M.D.,

PHYSICIAN AND LECTURER ON CLINICAL MEDICINE IN THE GLASGOW WESTERN INFIRMARY; EXAMINER IN CLINICAL MEDICINE TO THE FACULTY OF PHYSICIANS AND SURGEONS, GLASGOW; SECRETARY OF THE GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY; FORMERLY HOUSE SURGEON TO THE MANCHESTER CLINICAL HOSPITAL AND DISPENSARY FOR CHILDREN, ETC. ETC. ETC.

WITH EIGHTY-FIVE ILLUSTRATIONS.

PHILADELPHIA:
HENRY C. LEA.
1878.

LIST OF CONTRIBUTORS AND THEIR SUBJECTS.

W. T. GAIRDNER, M.D., Professor of the Practice of Physic in the University of Glasgow: Physician to the Glasgow Western Infirmary, &c.

On The Physiognomy of Disease.

JAMES FINLAYSON, M.D., Physician and Lecturer on Clinical Medicine in the Glasgow Western Infirmary, &c.

On Case-Taking, Family History, &c.
On Symptoms of Disorder in the various Systems.
(Except in so far as specified below.)

WILLIAM STEPHENSON, M.D., Regius Professor of Midwifery in the University of Aberdeen.

On Disorders of the Female Organs.

ALEXANDER ROBERTSON, M.D., Physician and Superintendent of the Town's Hospital and City Parochial Asylum, Glasgow.

On Insanity.

SAMSON GEMMELL, M.B., Assistant to the Professor of the Practice of Physic in the University of Glasgow, and Physician to the Dispensary of the Glasgow Western Infirmary.

On The Sphygmograph.
On The Physical Examination of the Chest and Abdomen.

JOSEPH COATS, M.D., Pathologist and Lecturer on Pathology in the Glasgow Western Infirmary, and also Physician to the Dispensary and its Throat Department.

On The Examination of the Fauces, Larynx, and Nares.
On The Method of Performing Post-Mortem Examinations.

PREFACE.

WHILE engaged in assisting Professor Gairdner in conducting his Clinical Classes in the Glasgow Royal Infirmary, and also in my own work at the Western Infirmary here, the want has often been felt of some volume to which students might be referred for assistance in the study and reporting of medical cases. The methods of case-taking sketched out by various teachers are no doubt useful in their way; but they do not give the amount or the kind of assistance really required in the investigation of a difficult case.

It is common to find that at the bedside of a patient the observer fails to apply the knowledge he actually possesses; it does not occur to him to follow up the inquiry by the necessary methods; although he may be perfectly familiar with them, he may not think of them at the time, or at least he may fail to recognize their importance for the case on hand.

This Manual, however, does not aim at supplying an easy and certain method of making a diagnosis. It would be strange, indeed, if any book could teach a student to do that which the most accomplished physician is often unable to complete to his own satisfaction. But one well-trained in clinical observation, if unable to make a diagnosis, can at least examine his patient thoroughly, and it is in this respect that he has an immense advantage: the case is thus put in a fair way for a diagnosis whenever this becomes possible.

It seemed quite within the scope of a book to give some assistance in this clinical study of the signs and symptoms of disease, by supplying carefully selected data in a condensed form, by submitting accurate methods of investigation, by

pointing out probable fallacies, and by directing attention to collateral inquiries or issues which might otherwise be readily overlooked by the inexperienced.

If some such assistance could be given, within one volume of convenient size, it seemed also that our teaching at the bedside might be relieved of an enormous mass of detail, which is apt at present to interfere with the higher forms of clinical instruction and research: the importance of these elementary details is so great that they cannot be omitted, or neglected in any way, in the teaching of large numbers, without disastrous results.

In attempting to produce such a volume as is here indicated, it was found expedient to apply to several contributors. Dr. Samson Gemmell has written the portion dealing with Physical Diagnosis: from his official position he was able to make free use of Professor Gairdner's lectures and teaching on this subject: he has, likewise, prepared a short section on the Sphygmograph, to which instrument he has devoted some special attention. In making arrangements for that part of the work which involved the detailed discussion of the symptoms of disease in the various Systems, it soon became evident to the Editor that it would be very desirable to obtain the assistance of experts in special departments, if the best results were to be aimed at. Professor Stephenson, accordingly, agreed to deal with the important department of Female Disorders; and Dr. Joseph Coats undertook the section on Laryngoscopy and Diseases of the Throat. With the development of the work it seemed desirable to add a chapter on Insanity, on account of the growing importance now attached to this branch of medicine, and also on account of the need which students feel of some guide in approaching cases of mental derangement; this portion of the book has been furnished by Dr. Alexander Robertson. But in the special sections of this work, thus committed to different hands, the writers kindly agreed to keep steadily in view the relation of the departments undertaken by them to the general scheme

of the book; and so to keep the description of mere details in subordination to those aspects of disease important in an ordinary physician's practice: indeed the space available for these subjects forbade any attempt to deal with them in full detail. Certain parts of the clinical investigation were likely to be neglected in the plan of such a book, if a more general view of the aspect and physiognomy of the patient were not also supplied: to meet this want an introductory chapter on the Physiognomy of Disease has been furnished by Professor Gairdner, who has throughout given much assistance in the rest of the work. A concluding chapter on the Method of performing Post-mortem Examinations has been added by Dr. Joseph Coats: imperfect methods of examining the body after death often lead to the practical loss of most important and laborious clinical investigations.

No attempt has been made to follow out any very strict nosological plan or classification of subjects. The guiding considerations have always been convenience and utility. The limitations of space forbade any attempt to deal with the treatment of disease, although occasional allusions are to be found to the effect of remedies. When the nature of a case has been thoroughly mastered, so as to afford a trustworthy guidance to its position in respect of a true diagnosis, the whole literature of medicine is laid open for our assistance in the treatment.

Many portions of this book are adapted more for reference than for reading in a continuous manner; but others, it will be easily seen, can be read best in sequence. Some subjects are dealt with more fully than others: this has been determined, in large measure, by considering what were the parts of the clinical inquiry in which the student required most assistance, or in which his present books seemed defective for clinical purposes.

Some references have been given at the openings of most of the chapters for the benefit of beginners, who might not know the names of special treatises dealing with the various

subjects in detail. To prevent repetition of the titles, a list of these is given separately after the table of Contents. It has not been thought desirable, as a rule, to cite authorities for the statements in the text. Numerous references to foreign books and to periodical literature would have been required in doing so, and it was feared that these would only confuse many readers. Occasionally a name has been introduced, in special circumstances, for the sake of clearness, and to avoid any mistakes which might arise from such an omission. In the absence of such citations, care has been taken, in the sections dealing with subjects on the borderland of medicine, to have them revised by those familiar with these departments. Various friends have kindly done this, and their names are omitted here simply to avoid attaching a responsibility to them which mere revision in this way scarcely imposes.

In the illustrations the aim has been to supply those which the student is likely to feel the want of in his actual bedside investigations. To keep the volume from being too expensive, no attempt has been made to illustrate those subjects which require color for their proper representation: it was thought better to omit such altogether. Instruments have likewise been omitted: the reader is supposed to be engaged in using those referred to. The illustrations are partly new and partly borrowed from recognized authorities. In particular, acknowledgment must be made of those obtained by the Publishers from the valuable work of Dr. Gee, and from the well-known book of my friend Dr. Wm. Roberts. Several have also been copied from Dr. Gairdner's *Clinical Medicine*. A list, with details of the sources of the illustrations, is given elsewhere. Dr. John Wilson (whose illustrations of the cutaneous parasites are already well known to the profession) has supplied several new microscopic drawings of great value.

J. F.

351 Bath Crescent, Glasgow,
August, 1878.

CONTENTS.

CHAPTER I.

PAGE

THE PHYSIOGNOMY OF DISEASE, ... 25

CHAPTER II.

EXAMINATION AND REPORTING OF MEDICAL CASES, . . . 53

CHAPTER III.

TEMPERATURE—PULSE—GENERAL SIGNS OF PYREXIA, . . 68

CHAPTER IV.

SKIN—HAIR—NAILS—GLANDS—JOINTS, ... 91

CHAPTER V.

EXAMINATION OF THE ORGANS OF SPECIAL SENSE—SUBJECTIVE DISORDERS OF THE SPECIAL SENSES—TESTING OF CRANIAL NERVES, ... 128

CHAPTER VI.

SYMPTOMS OF DISORDER IN THE NERVOUS SYSTEM, . . . 166

CHAPTER VII.

THE USE OF ELECTRICAL INSTRUMENTS, ... 207

CHAPTER VIII.

INSANITY, ... 224

CHAPTER IX.

DISORDERS OF THE RESPIRATORY AND CIRCULATORY SYSTEMS, . 255

PAGE

CHAPTER X.

EXAMINATION OF THE FAUCES, LARYNX, AND NARES, . . 287

CHAPTER XI.

DISORDERS OF THE DIGESTIVE SYSTEM, ... 303

CHAPTER XII.

JAUNDICE AND DROPSY, ... 332

CHAPTER XIII.

EXAMINATION OF THE URINE AND THE SIGNIFICANCE OF URINARY SYMPTOMS, ... 349

CHAPTER XIV.

SYMPTOMS CONNECTED WITH THE MALE GENERATIVE ORGANS, . 396

CHAPTER XV.

DISORDERS OF THE FEMALE ORGANS, AND THEIR RELATIONS TO THE GENERAL HEALTH, ... 399

CHAPTER XVI.

THE PHYSICAL EXAMINATION OF THE CHEST AND ABDOMEN, PART I.—LUNGS; PART II.—HEART; PART III.—ABDOMEN, ... 429

CHAPTER XVII.

METHOD OF PERFORMING POST-MORTEM EXAMINATIONS, . . 503

LIST OF ILLUSTRATIONS.

FIG.		PAGE
1.	Diurnal range of the temperature in hectic fever,	71
2.	Unusually high temperature just before death,	73
3.	Very low temperature just before death,	73
4.	Gradual rise of temperature at the beginning of enteric fever,	74
5.	Temperature in tertian ague,	75
6.	Remitting lysis in enteric fever,	76
7.	Collapse of the temperature in phthisis, simulating an improvement. Comparison of axillary and vaginal measurements of the terminal temperatures,	77
	(*These diagrams of temperature were obtained from patients under Dr. Finlayson's care.*)	
8.	Diagram of the various parts of a pulse-wave (based on Galabin's diagram),	83
9.	Healthy pulse,	84
10.	Febrile or dicrotic pulse,	84
11.	Hyper-dicrotous pulse,	84
12.	Pulse of aortic regurgitation,	84
13 and 14.	Right and left radial pulses from a case of thoracic aneurism, showing a marked difference on the two sides,	85
15.	Senile pulse or pulse of rigid arteries,	85
16.	Irregular pulse,	85
17.	Pulse-tracing from a case of Bright's disease, showing increased arterial tension,	86
	(*These pulse-tracings were taken by Dr. Gemmell chiefly from patients under the care of Dr. Gairdner.*)	
18.	The Itch insect—*Acarus Scabiei.* Female—ventral aspect. Drawn by Dr. John Wilson from a specimen in his possession,	98

FIG. PAGE

19. *Pediculis Pubis*, or Crab louse, with ova adhering to the hair. Drawn by Dr. John Wilson from a specimen in Glasgow Western Infirmary, ... 101
20. Portion of hair from a case of Favus—*Tinea Favosa*—showing spores of vegetable parasitic growth—*Achorion Schönleinii*. Reduced from Bazin: *Affections cutanées parasitaires*. Paris, 1858. Pl. ii., Fig. 1, . . 104
21. Portion of hair from a case of ringworm—*Tinea Tonsurans* or *Tinea Tricophytina*—showing spores of vegetable parasitic growth—*Tricophyton Tonsurans*. Reduced from Bazin: *Op. Cit.*, Pl. ii. Fig. 2, ... 104
22. *Microsporon Furfur*, the vegetable parasite of Pityriasis versicolor. From Dr. M'Call Anderson's *Parasitic Affections of the Skin*, 2d edition, London, 1867. Fig. 17, ... 116

Ziemssen's Motor Points for Localized Electrization:—

23. Front of forearm, ... 211
24. Back of forearm, ... 212
25. Front of thigh, ... 213
26. Back of thigh, ... 214
27. Inner aspect of leg, ... 215
28. Outer aspect of leg, ... 216

(From Ziemssen: *Die Electricität inder Medicin*, 3d edition. Berlin, 1866. Figs. 15, 17, 19, 20, 21, 22.)

29. Lung tissue obtained from sputa after digestion in caustic soda. Drawn by Dr. John Wilson from specimens obtained in Glasgow Western Infirmary, . . . 278
30. *Oidium Albicans*, the vegetable parasite of "Muguet" or "Thrush." Reduced from Ch. Robin; *Histoire naturelle des végétaux parasites*. Paris, 1853. Pl. i. Fig 3, 305
31. *Sarcinæ Ventriculi*, starch granules, and oil globules, from vomited matter. Funke: *Atlas of Physiological Chemistry*. London (Cavendish Society), 1853. Plate vii., Fig. 4, ... 313
32. *Oxyurides Vermiculares*, female, natural size. Davaine: *Traité des Entozoaires*. 2d edition. Paris, 1877. Fig. 48, ... 322
33. *Oxyurides Vermiculares*, magnified five times. *A*, male; *B*, female. Leuckart: *Die menschlichen Parasiten*. Leipzig, 1876. Bd. ii., Fig. 175, ... 322

FIG. PAGE

34. *Tænia Mediocanellata*, natural size, showing the different size and shape of the segments in the various parts. Leuckart: *Die menschlichen Parasiten.* Leipzig, 1863. Bd. i., Fig. 78, ... 323
35. Proglottides of *Tænia solium*, magnified twice, showing arrangement of uterus. Leuckart: *Op Cit.*, Fig. 57, 323
36. Proglottis of *Tænia mediocanellata*, magnified, showing arrangement of uterus. Leuckart: *Op. Cit.*, Fig. 79, 323
37. Head of *Tænia solium* (armed with a circle of hooklets), showing two of the four suckers. From Dr. Cobbold's *Entozoa.* Lond., 1864. Plate xii. (Reduced by him from Blanchard), ... 324
38. Head of *Tænia mediocanellata* (not armed with hooklets), showing two of the four suckers. Drawn from a specimen in the Glasgow Royal Infirmary, by Dr. John Wilson, ... 324
39. Notched teeth—malformation of permanent teeth found in hereditary syphilis. Jonathan Hutchinson: *Clinical Memoir on Certain Diseases of the Eye and Ear, consequent on Inherited Syphilis.* London, 1863. Plate i., Fig. 8, ... 328
40. Diagram of percussion-dulness in ascites while patient is lying on the back, ... 340
41. Diagram of the position of an *ovarian tumor* of the right side, in various stages of enlargement. The shading shows the *percussion-dulness in ovarian dropsy of moderate extent.* Slightly modified from Bright: *Clinical Memoirs on Abdominal Tumors and Intumescence.* Reprinted by New Sydenham Society. London, 1860. Fig. 23, ... 340
42. Human Echinococci. *A*, A group of echinococci still adhering to the germinal membrane by their pedicles, magnified 40 times. *B*, An echinococcus magnified 107 times; the head is invaginated in the caudal vesicle; a pedicle is attached to it. *C*, The same compressed; the head retracted, the suckers and the hooks are seen in the interior. *D*, Echinococcus magnified 107 times; the head is protruded from the caudal vesicle. *E*, Crown of hooks magnified 350 times. Davaine: *Traité des Entozoaires.* 2d edition. Paris, 1877. Fig. 9. (The figure here is borrowed from Dr. Wm. Roberts), ... 346

FIG.		PAGE
43.	Crystals of cholesterine. Otto Funke: *Atlas of Physiological Chemistry*. London, 1853. Plate vi., Fig. 1,	347
44.	Blood corpuscles in urine. Dr. Wm. Roberts: *Practical treatise on urinary and renal diseases, including urinary deposits*. 3d edition. London, 1876. Fig. 30,	368
45.	Pus corpuscles in urine. Dr. Wm. Roberts: *Op. Cit.*, Fig. 29,	371
46.	Hyaline or waxy tube-casts. Dr. Wm. Roberts: *Op. Cit.*, Fig. 26,	374
47.	Epithelial and opaque granular tube-casts. Dr. Wm. Roberts: *Op. Cit.*, Fig. 25,	375
48.	Fatty tube-casts and blood-casts. Dr. Wm. Roberts: *Op. Cit.*, Fig. 27,	376
49.	Renal epithelium. Dr. Wm. Roberts: *Op. Cit.*, Fig. 24,	377
50.	Epithelial cells from the bladder, ureter, and pelvis of the kidney. Dr. Wm. Roberts: *Op. Cit.*, Fig. 23,	378
51.	Vaginal epithelium in urine. Dr. Wm. Roberts: *Op. Cit.*, Fig. 22,	378
52.	Spermatozoa. Dr. Wm. Roberts: *Op. Cit.*, Fig. 35,	379
53.	Vibriones in urine. Dr. Wm. Roberts: *Op. Cit.*, Fig. 36,	379
54.	Mould fungus (*Penicilium Glaucum*) in urine. Dr. Wm. Roberts: *Op. Cit.*, Fig. 37,	379
55.	Yeast fungus (*Torula Cerevisiæ*) in urine. Dr. Wm. Roberts: *Op. Cit.*, Fig. 39,	380
56.	Extraneous matters found in urine:—Cotton fibres, flax fibres, hairs, air-bubbles, oil globules, wheat starch, potato starch, rice starch granules, vegetable tissue, muscular fibres, feathers. Dr. Wm. Roberts: *Op. Cit.*, Fig. 2,	381
57.	Uric acid crystals of various forms. Selected from Otto Funke's *Atlas of Physiological Chemistry*. London, 1853,	382
58.	Hedgehog crystals of urate of soda. Dr. Wm. Roberts: *Op. Cit.*, Fig. 10,	383
59.	Amorphous urates. Dr. Wm. Roberts: *Op. Cit.*, Fig. 8,	383
60.	Ammonio-magnesian (or triple) phosphates, selected from various sources to show the different forms,	384
61.	Crystallized phosphate of lime, selected to show the different forms,	385
62.	Crystals of oxalate of lime, selected to show the different forms,	386

FIG. PAGE

63. Apjohn's apparatus for the estimation of urea with the hypobromite of soda solution. For original, see *Chemical News*, Jan. 22, 1875. (The figure here is borrowed from Dr. Wm. Roberts), ... 393
64. Transverse section of healthy chest upon level of sterno-xiphoid articulation. Dr. Samuel Gee: *Auscultation and Percussion, together with the other methods of physical examination of the chest.* 2d edition. London, 1877. Fig. 1, ... 432
65. Pigeon-breast. Tracing taken from a child of seven years. Dr. Gee: *Op. Cit.*, Fig. 4, ... 432
66. Rickety chest. Dr. Gee: *Op. Cit.*, Fig. 5, ... 432
67. Bilateral enlargement of emphysema. Dr. Gee: *Op. Cit.*, Fig. 7, ... 433
68. Unilateral retraction of chest: consequent upon cirrhosis of left lung in a girl of fourteen. Dr. Gee: *Op. Cit.*, Fig. 9, ... 434
69. Normal percussion-dulness of heart, liver, and spleen, Modified from Weil: *Handbuch und Atlas der topographischen Percussion.* Leipzig, 1877, ... 452
70. Percussion-dulness in a case of hypertrophy of both sides of the heart. (From a patient of Dr. Gairdner's, introduced on Weil's model of the chest), ... 457
71. Percussion-dulness in pericardial effusion. The lower and left margins are undefined, owing to their being inseparable from the dull percussion of the abdomen and of the left pleura. Dr. W. T. Gairdner: *Clinical Medicine.* Edin., 1862. Fig. 30, ... 458
72. Displacement of mediastinum, heart, and liver from pneumothorax of the right side. Weil: *Op. Cit.*, Plate xxiii., ... 459
73. Displacement of mediastinum, heart, and left lobe of liver from pleuritic effusion on the left side: the shading indicates the extent of the dull percussion. (Diagram obtained from a patient of Dr. Gairdner's, introduced on Weil's model of the chest), ... 460
74. Diagram of the heart's action, ... 462
75. Auricular systolic murmur, ... 466
76. Ventricular systolic murmur, ... 467
77. Ventricular-diastolic murmur, ... 467

FIG.		PAGE
78.	Auricular-systolic and ventricular-systolic murmurs combined, ...	467
79.	Ventricular-systolic and ventricular-diastolic murmurs combined, ...	468
80.	Auricular-systolic, ventricular-systolic, and ventricular-diastolic murmurs combined, ...	468
	(These 7 diagrams are from Dr. Gairdner's *Clinical Medicine*, Figs. 19 to 24, pp. 575–579.)	
81.	Diagram illustrative of the distinctive areas of the four valvular murmurs. The figure is borrowed from Dr. Gairdner's *Clinical Medicine* (Fig. 25, p. 583): he is responsible for the areas marked out. The anatomical figure was copied, on a reduced scale, from Luschka: *Die Brust-Organe des Menschen in ihrer Lage.* Tübingen, 1857, ...	470
82.	The anatomical regions of the abdomen, . . .	478
83.	Abdominal viscera *in situ*, after removal of omentum. Abdominal portion copied from Marshall: *Physiological Diagrams* (No. 3, Fig. 1), ...	479
84.	Displacement of cardiac and hepatic dulness in emphysema of the lungs. Weil: *Op. Cit.*, Plate xxv., .	486
85.	Various degrees of enlargement of the spleen. Weil: *Op. Cit.*, Plate xvii. (The splenic boundaries are copied as they stand; the cardiac and hepatic are slightly modified), ...	492

HAMILTON ON NERVOUS DISEASES.—Now Ready.

NERVOUS DISEASES: THEIR DESCRIPTION AND TREATMENT. By ALLAN McLANE HAMILTON, M.D., Attending Physician at the Hospital for Epileptics and Paralytics, Blackwell's Island, N. Y., and at the Out-Patients' Department of the New York Hospital. In one handsome 8vo. volume of 512 pages, with 53 illus.; cloth, $3 50.

The author tells us in his preface that it has been his object to produce a concise, practical book, and we think he has been successful, considering the extent of the subject which he has undertaken. In fact, it is more extensive than the title properly or accurately indicates, embracing—besides what are usually regarded as nervous diseases—inflammatory affections, both acute and chronic, hemorrhages and tumors of the cerebrum and cerebellum, medulla oblongata, spinal cord and nerves, with thrombosis and embolism of the arteries, sinuses, and veins. The reader may therefore expect information, more or less full and satisfactory, on almost every point connected with the nervous system. We have no hesitation in saying that reliance may be placed on Dr Hamilton's conscientious performance of his self-assigned task, on his soundness of judgment, and freedom from empiricism.—*Edinburgh Med. Journ.*, Oct. 1878.

The author tells us that it has been his aim "to produce a concise, practical book," and in this he has met with a very flattering success. His work, while giving thoughtful attention to matters of diagnosis and treatment, at the same time does not fail to take a comprehensive view of the etiology and pathology of nervous affections. This work is a valuable one, especially as it does not mislead the reader by given results attained or attainable by no one but the author. —*Buffalo Med. and Surg. Journ.*, Nov. 1878.

HENRY C. LEA, Philadelphia.

2 gal
158